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MENINGOCOCCUS MENINGITIS IN THE UNITED STATES

An increase in the number of cases of meningococcus meningitis this year over the corresponding period of last year has been noted in the Public Health Reports (issues of April 6, 1928, p. 807, and April 27, 1928, p. 999).

During the eight weeks from March 4 to April 28, 1928, and the corresponding eight weeks of 1926 and 1927, forty-two States reported cases of meningococcus meningitis as follows:

	Cases
1926	438
1927	477
1928	1,036

These States had an estimated population of more than 104,000,000 in 1927.

The disease appears to be decreasing in the Mountain States, which have reported the highest case rates.

Reports of deaths for the year 1928 are available only from cities. The following table shows the numbers of cases of meningococcus meningitis and deaths from this disease reported by 7 large cities for the first 17 weeks of 1927 and 1928. The cities were selected for the reason that they reported a considerable number of cases.

Meningococcus meningitis cases and deaths reported by certain cities, January 1 to April 28, 1928, and corresponding period of 1927

	1927		1928			1927		1928	
	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths
Chicago	50	23	133	66	New York City	77	46	284	148
Cleveland	8	3	29	9	St. Louis	14	4	44	16
Detroit	17	12	22	24					
Kansas City, Mo.	5	3	34	16	Total	242	125	587	304
Milwaukee	71	34	41	25					

It should be noted that, while the increase over preceding years is considerable, the number of cases is not large in proportion to the population.

THE INCIDENCE OF VARIOUS DISEASES ACCORDING TO AGE [1]

Hagerstown Morbidity Studies No. VIII [2]

By EDGAR SYDENSTRICKER, *Statistician, United States Public Health Service*

In this report it is proposed to place on record in some detail the results of the morbidity study in Hagerstown, Md., which bear upon the incidence of various diseases and conditions at different ages.

The data are too voluminous to permit of a detailed discussion of each disease or a comparison with other morbidity records in a short paper. It is believed, however, that they will be of interest as they stand, not merely for the reason that they add to our morbidity experience, but also, and perhaps especially, because they are the results of the first study, of which we are aware, of the *incidence* of illness and disease during a period as long as 28 months in a general population group composed of persons as found in their homes—that is, of both sexes, all ages, engaged in the ordinary occupations of life, in a fairly typical inland small city in the eastern section of the United States.

I. Scope and Method of the Study and Definition of Illness and Disease

The scope and method of the study have been discussed in detail in the first paper of this series and need not be repeated here except in so far as they may affect some particular phase of the results here presented. For proper interpretation of the data, however, it may be well to invite attention to certain definitions and procedures, as follows:

1. For every case of illness recorded, an attempt was made to obtain as complete a statement as possible of the specific disease or diseases responsible for it or of the condition which most accurately described it. Only 170, or less than one per cent, of the 17,847 illnesses had to be classified as "ill-defined and unknown." Of the total number (17,217) for which information as to medical and other service was avialable, 7,953, or 46 per cent, were attended by physicians, and in practically

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[1] From the Office of Statistical Investigations, United States Public Health Service.

[2] Other Hagerstown morbidity studies published are—

I. A Study of Illness in a General Population Group: Method of Study and General Results. Pub. Health Rep., vol. 41, No. 39, Sept. 24, 1926. Reprint No. 1113.

II. The Reporting of Notifiable Diseases in a Typical Small City. Pub. Health Rep., Vol. 41, No. 41, Oct. 8, 1926. Reprint No. 1116.

III. The Extent of Medical and Hospital Service in a Typical Small City. Pub. Health Rep., Vol. 42, No. 2, Jan. 14, 1927, Reprint No. 1134.

IV. The Age Curve of Illness. Pub. Health Rep., vol. 42, No. 23, June 10, 1927. Reprint No. 1163.

V. A comparison of the Incidence of Illness and Death. Pub. Health Rep., vol. 42, No. 25, June 24, 1927. Reprint No. 1167.

VI. The Illness Rate Among Males and Females. Pub. Health Rep., vol. 42, No. 30, July 29, 1927. Reprint No. 1172.

VII. The Causes of Illness at Different Ages. Pub. Health Repts., vol. 43, No. —.

all of these cases the diagnosis given by the informant at the home was reviewed by the attending physician shortly after the visit was made. If we omit "colds" and minor digestive disturbances, which numbered about 7,500, 65 per cent of the illnesses were attended and the diagnoses were reviewed by physicians. The facts that repeated visits were made to the same households and that 67 per cent of the total population enumerated were observed for at least 24 of the 28 months, are evidence, we believe, of a real attempt to ascertain not only the incidence, but also the cause of illness.[3]

2. In the interpretation of the data presented in this paper it is essential to keep in mind the following qualification: *The measure of the incidence of any specific disease was the extent to which it manifested itself in illness.* If it did not manifest itself in illness, it was not observed and, therefore, was not recorded. It follows, of course, that our results are not comparable with the results of intensive medical or physical examinations, and that defects and conditions indicative of ill health are not revealed unless they were major causes of illnesses recorded. Similarly, those morbid conditions which ordinarily are described as "below par," "not feeling very well," etc., or were of short duration and occasioned little discomfort, were not recorded. For example, many minor respiratory attacks were not reported. Less than 5 per cent of the illnesses for which exact durations were stated were one day or less in duration. Comparisons of our results with other morbidity records indicate that, in general, the illnesses we recorded were those which lasted over two days.

Thus the definition of "illness" employed in this study was not, as we have already pointed out, rigidly precise. The records obtained were of illnesses as reported by the household informant (usually the wife), either as experienced by herself or as she observed them in her family; thus the definition of the term can not be refined any further than the common understanding of the word. Furthermore, the records as obtained were of *attacks*, rather than illness in

[3] *Per cent of persons observed for specified number of months in the Hagerstown morbidity study*

Number of months under observation	Persons under observation specified number of months	
	Number	Per cent of total
28 months	3,202	37.3
26 months or more	5,140	49.8
24 months or more	5,787	67.4
18 months or more	6,824	79.5
14 months or more	7,528	87.7
12 months or more	7,794	90.8
9 months or more	8,085	94.2
6 months or more	8,340	97.1
4 months or more	8,431	98.2

the sense of ill health. As already emphasized, of those persons affected with some chronic condition, only those who suffered ill effects of this condition *during the period* came to notice. "Normal" reactions of the individual, considered by some as not symptoms of disease, although accompanied by some discomfort, may be said to be unrecorded. Although the reader is cautioned against putting too fine a point on this definition of illness, we believe that the illness recorded undoubtedly was a fairly accurate indication of disease incidence.

3. In only 660, or 3.7 per cent, of the total illnesses was more than one cause or condition recorded. One reason for the comparatively small number of cases with "contributory" and "joint" causes was the method used in classification. Sometimes the informant mentioned more than one condition in telling about an illness; but when these conditions were in the nature of symptoms which simply amplified the information as regards a single cause of illness, they were not tabulated as complications or contributory causes. For example, a person may have reported "indigestion" and a "headache" as the cause of illness, but only the "indigestion" was used to denote the condition. In other words, *symptoms* were not made contributory causes unless it seemed quite certain that they apparently represented a condition *separate* and *distinct* from the primary diagnosis. In such cases, symptomatic indications were tabulated as disease entities, even though they were sometimes complications of the primary disease. Thus, in the case of "colds" and "indigestion," the cold was made primary, but the indigestion was tabulated as a complication.

In the tables on the incidence of specific diseases which are presented in this paper, *both primary and contributory causes* are given as distinct diseases or conditions. Thus, in the foregoing instance, the "cold" is included under its appropriate title and "indigestion" under its appropriate title also.

The age groupings were chosen with the primary purpose of exhibiting the characteristic age curves of the various diseases. This was a rather difficult thing to do, and in some instances the groupings are probably not the best suited. It was thought best to retain one age classification throughout, however, except for a few diseases for which additional tables and graphs are given.

II. The Record of Diseases and Conditions

The basic data used in this report are given in Table A, entitled "Number of illnesses, by age groups, in which specified diseases or conditions were the sole or primary or contributory cause in a group of white persons in Hagerstown, Md., observed from December 1, 1921, to April 1, 1924."

The data are presented in considerable detail in order that they may be available to those who wish to use the statistics in various ways. For several diseases the numbers according to age groups are too small to yield dependable indications of age variations, but they are given for what they are worth in themselves, as well as to enable the student to make combinations to suit his particular purpose.

TABLE A.—*Number of illnesses, by age groups, in which specified diseases or conditions were the sole or primary or contributory cause in a group of white persons observed in Hagerstown, Md., December 1, 1921–March 31, 1924*

Disease or condition (numbers in parentheses refer to those given in the International List of Causes of Death, 1920)	Number of illnesses in which the specified disease or condition was a cause							
	All ages [1]	Age group						
		0–4	5–9	10–14	15–24	25–44	45–64	65+
Years of life observed	16,517	1,777	2,105	1,713	2,526	4,643	2,575	810
Epidemic, endemic, and infectious diseases (1–42, except 11 and 31)	1,465	628	618	87	40	53	26	8
Typhoid fever (1)	19	1	4	5	3	3	2	1
Measles (7)	568	273	261	28	4	2	------	------
Scarlet fever (8)	34	9	16	7	2	------	------	------
Whooping cough (9)	374	209	142	12	3	4	3	------
Diphtheria (10)	45	11	18	7	2	5	2	------
Cholera nostras (15)	36	1	1	4	5	11	11	3
Chicken pox (25a)	232	106	115	10	------	1	------	------
German measles (25b)	18	3	12	2	------	1	------	------
Tuberculosis, nonpulmonary (32–37)	14	------	1	1	3	9	------	------
Other diseases in this group (2–6, 12–14, 16–24, 26–30, 38–42)	125	15	48	11	18	17	8	4
General diseases (43–69)	381	6	15	14	22	103	150	63
Cancer (43–49)	22	------	------	------	------	6	10	5
Rheumatism, acute and chronic (51, 52)	290	1	11	11	17	75	114	55
Diabetes (57)	16	------	------	------	------	1	14	1
Others (50, 53–56, 58–69)	53	5	4	3	5	21	12	2
Diseases of the nervous system (70–84, part of 205)	802	11	47	89	72	269	225	72
Cerebral hemorrhage and apoplexy (74)	15	1	------	------	------	2	3	8
Paralysis (75)	27	------	------	1	------	1	8	16
Epilepsy (78)	11	1	------	4	2	3	1	------
Chorea (81)	20	------	3	14	2	------	1	------
Neuralgia (part of 82)	121	1	3	4	9	52	36	12
Neuritis and sciatica (part of 82)	95	------	------	------	3	39	41	9
Neurasthenia and nervous exhaustion (part of 84)	216	3	7	10	25	79	69	17
Headache (part of 82 and 205)	251	2	31	52	18	80	59	7
Other nervous diseases (71–73, 76, 77, 79–80, 83, part of 82, 84)	46	3	3	4	13	13	7	3
Diseases of the eyes and annexa (85)	139	15	34	29	11	25	17	6
Pink eye	33	4	9	9	2	5	3	------
Conjunctivitis (other)	19	5	3	4	------	2	5	------
Sty	18	3	4	3	2	6	------	------
Sore eye and "other eye"	69	3	18	13	7	12	9	6
Diseases of ears and mastoid process (86)	248	72	78	45	20	24	6	2
Otitis media	166	63	44	27	7	20	4	1
Mastoiditis	11	------	3	------	6	2	------	------
Earache	53	7	26	14	4	------	------	1

[1] Including unknown ages.

TABLE A.—*Number of illnesses, by age groups, in which specified diseases or conditions were the sole or primary or contributory cause in a group of white persons observed in Hagerstown, Md., December 1, 1921–March 31, 1924*—Continued

Disease or condition (numbers in parentheses refer to those given in the International List of Causes of Death, 1920)	Number of illnesses in which the specified disease or condition was a cause							
	All ages	Age group						
		0–4	5–9	10–14	15–24	25–44	45–64	65+
Diseases of circulatory system (87–96)	397	22	23	31	28	73	113	95
Diseases of the heart (87–90)	222	------	5	17	18	45	65	60
Arteriosclerosis (part of 91)	32	------	------	------	------	------	4	28
Hemorrhoids (part of 93)	18	------	------	------	1	9	8	------
Adenitis (part of 94)	57	21	13	11	6	4	2	------
Nosebleed and other hemorrhage (95)	17	1	4	1	1	------	7	3
High blood pressure (part of 96)	30	------	------	------	1	4	21	4
Other diseases of circulatory system (part of 91, 92, 93, 94, and 96)	21	------	1	2	1	11	6	------
Total respiratory (excluding operations) (11, 31, 97–107, 109)	10,976	1,651	1,923	1,336	1,255	2,641	1,529	484
Influenza and grippe (11) [1]	2,382	206	343	278	272	755	385	107
Pneumonia (100, 101)	144	71	20	12	5	14	14	8
Pleurisy (102)	38	2	4	1	6	10	12	3
Diseases of the pharynx (109)	1,101	79	322	266	175	181	53	9
Tonsillitis	472	55	118	106	83	87	18	3
Sore throat	431	15	166	129	55	42	17	4
Quinsy	55	------	4	5	13	23	4	------
Other diseases of pharynx	143	9	34	26	24	29	14	2
Diseases of the larynx (98)	188	36	52	15	11	36	32	5
Croup	88	32	44	9	1	1	1	------
Laryngitis	84	4	8	4	7	31	25	5
Other diseases of larynx	16	------	------	2	3	4	6	------
Hay fever (part of 107)	33	------	------	------	7	11	9	5
Asthma (105)	67	------	1	9	7	24	14	10
Tuberculosis, pulmonary (31)	55	------	1	1	14	25	8	1
Other diseases of respiratory system (including head colds, chest and bronchial conditions) (97, 99, 103, part of 107)	6,908	1,257	1,180	754	758	1,585	1,002	336
Coryza [2]	1,791	352	286	200	180	462	215	67
Bronchitis, acute and chronic [2]	1,019	262	191	81	69	199	146	62
Chest colds, cough, and bronchial conditions [2]	440	87	79	42	32	99	72	25
Tonsillectomy and (or) adenoidectomy	120	13	66	17	13	10	1	------
Other operations on throat and nasal fossæ	8	------	------	------	4	2	1	------
Diseases of teeth and gums (part of 108)	136	2	21	32	21	42	16	2
Teeth abscess	53	1	4	11	12	17	8	------
Toothache	48	1	12	18	6	11	------	------
Diseases and disorders of the digestive system (110–127, part of 108 and 205)	1,685	282	312	223	156	331	281	82
Ulcers of stomach and duodenum (111)	12	------	------	------	1	5	6	------
Indigestion, "upset stomach" and nervous indigestion (part of 112)	739	123	164	101	62	133	114	39
"Stomach trouble" and nausea (part of 112)	137	13	40	24	7	25	19	8
Diarrhea (113, 114)	219	104	16	17	16	38	21	6
Intestinal parasites (116)	23	13	7	2	------	1	------	------
Appendicitis (117)	99	1	9	13	31	25	16	4
Hernia (118a)	27	1	1	1	1	8	12	3
Constipation (part of 119)	14	2	------	------	------	6	3	3
Other intestinal, including obstructions (part of 118 and 119)	25	2	2	5	2	4	9	1
Biliary calculi (123)	72	------	------	1	6	37	20	2
Cholecystitis (part of 124)	32	------	1	1	------	8	16	3
Jaundice (part of 124)	45	7	21	6	5	3	3	------
Other diseases of the liver (part of 124)	31	1	2	2	1	3	16	6
"Biliousness" (part of 205)	172	8	44	47	22	20	22	9
Other diseases of the digestive system (110, 126, and 108 excluding teeth and gums)	38	7	5	3	2	15	4	2

[1] This record covers the period Feb. 1, 1923–Mar. 31, 1924, and relates to the following years of observations: 0–4, 972; 5–9, 1,054; 10–14, 860; 15–24, 1,233; 25–44, 2,287; 45–64, 1,267; 65+, 384; total, 8,248.

TABLE A.—*Number of illnesses, by age groups, in which specified diseases or conditions were the sole or primary or contributory cause in a group of white persons observed in Hagerstown, Md., December 1, 1921–March 31, 1924*—Continued

Disease or condition (numbers in parentheses refer to those given in the International List of Causes of Death, 1920)	Number of illnesses in which the specified disease or condition was a cause							
	All ages	Age group						
		0–4	5–9	10–14	15–24	25–44	45–64	65+
Diseases of kidney and annexa (128–134)	237	16	12	11	11	50	78	54
Nephritis (128, 129)	83	1	1	3	6	8	32	31
Kidney diseases, unqualified (131)	91	14	7	8	5	27	19	10
Calculi of urinary passages (132)	14					3	8	3
Cystitis (part of 133)	23					4	10	7
Bladder trouble (part of 133)	24	1	4			6	9	3
Other diseases of kidney and annexa (134)	2					2		
Diseases of genito-urinary system (nonvenereal) (135–142)	215	2	3	14	43	98	45	6
Diseases of male organs	12	2	2	1	1	1	1	4
Salpingitis (138)	21		1		6	12	2	
Tumors or cysts of ovary or uterus (137, 139)	18				3	11	2	1
Menstrual trouble (part of 141)	52			12	21	13	6	
Menopause	41					15	24	
Other diseases of female genital organs (140, part of 141, 142)	71			1	12	46	10	1
Puerperal state (143–150)	402			2	112	275	3	
Abortion and stillbirth (part of 143)	33			1	4	28		
Confinements	324				99	216		
Other puerperal conditions (143–150)	45			1	9	31	3	
Diseases of skin and cellular tissue (151–154, part of 205)	321	71	85	57	27	48	19	12
Furuncle (152)	77	6	19	11	12	20	6	2
Abscess (153)	31	3	4	3	4	13	2	1
Scabies and itch (part of 154)	24	6	8	10				
Impetigo contagiosa (part of 154)	25	7	9	4	3	2		
Sores on body (part of 205)	67	27	23	14	1	2		
Hives and rash (part of 205)	48	14	13	6	5	4	5	1
Other and unqualified skin conditions (part of 154)	49	8	9	9	2	7	6	8
Diseases of bones and organs of locomotion (155–158, part of 205)	116	2	5	5	5	49	35	13
Lumbago, myalgia, myositis (part of 158)	52	1	3	2		22	19	5
Backache (part of 205)	38			1	2	19	9	5
Other diseases of bones or organs of locomotion (155, 156, part of 158)	26	1	2	2	3	8	7	3
Congenital malformations and infancy (159–163)	19	13	2	3				
Senility (164)	14							14
External causes (165–203)	656	51	96	75	82	151	142	38
All poisonings (175, 176, 177)	46	6	10	8	4	13	2	2
Burns (178–179)	35	8	5	5	4	8	5	
Cuts (184)	61	6	11	13	9	12	8	1
Falls (185)	73	5	6	9	3	15	18	10
Automobile, street, railroad, etc. (188)	56	4	8	2	10	15	14	1
Fractures, wounds, and other injuries (201, 202)	348	21	54	36	47	78	82	21
Other external causes (165–174, 181–182, 189, 190–196)	37	1	2	2	5	10	13	3
Ill-defined and unknown	170	47	18	16	11	36	27	11

III. Incidence Rates of Specific Diseases at Different Ages

In the following series of tables the age specific rates of the different diseases are given on an annual basis. The discussion is confined largely to brief explanatory comment and, in some instances, contains supplementary details; but we have relied upon the graphs to depict the principal results and indications that the data appear to yield. The number of cases and "years of life observed" upon which any rate is computed may be found by reference to Table A.

1. EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES

(Int. List. Nos. 1–42, except 11 and 31)

TABLE 1

Diseases and conditions	Annual rate per 1,000							
	All ages	0–4	5–9	10–14	15–24	25–44	45–64	65 and over
Total	88.7	353.4	293.7	50.8	15.8	11.4	10.1	9.9
Typhoid	1.2	.6	1.9	2.9	1.2	.6	.8	4.2
Measles	34.4	153.6	124.0	16.3	1.6	.4	-------	-------
Scarlet fever	2.1	5.1	7.6	4.1	.8	-------	-------	-------
Whooping cough	22.6	117.6	67.5	7.0	1.2	.9	1.2	-------
Diphtheria	2.7	6.2	8.6	4.1	.8	1.1	.8	-------
Cholera nostras	2.2	.6	.5	2.3	2.0	2.4	4.3	3.7
Chicken pox	4.0	59.7	54.6	5.8	-------	.2	-------	-------
German measles	1.1	1.7	5.7	1.2	-------	.2	-------	-------
Tuberculosis, nonpulmonary	1.8	-------	.5	.6	1.2	1.9	-------	-------

Of the total 1,465 cases included under the above heading, 1,174 were measles, whooping cough, and chicken pox, so that the age curve for the total for the group is influenced largely by these three diseases. The number of cases of the other diseases are too small to yield dependable indications according to age although some of the rates are interesting from the viewpoint of interepidemic incidence.

In view of the fact that measles, whooping cough, and chicken pox were quite prevalent during the period of study, their actual incidence (as contrasted with the incompletely reported incidence usually available [4]) according to age is not without significance. The accom-

[4] The annual rates based on our records and annual rates based on reports of physicians to the local health department are compared below:

Observed and reported incidence of measles, whooping cough, and chicken pox in Hagerstown Md. December 1, 1921–March 31, 1924

Disease	Annual incidence per 1,000 as—	
	Observed in home visits	Reported by physicians
Measles	34.4	9.0
Whooping cough	22.6	3.3
Chicken pox	14.0	2.2

See Hagerstown Morbidity Studies No. II.

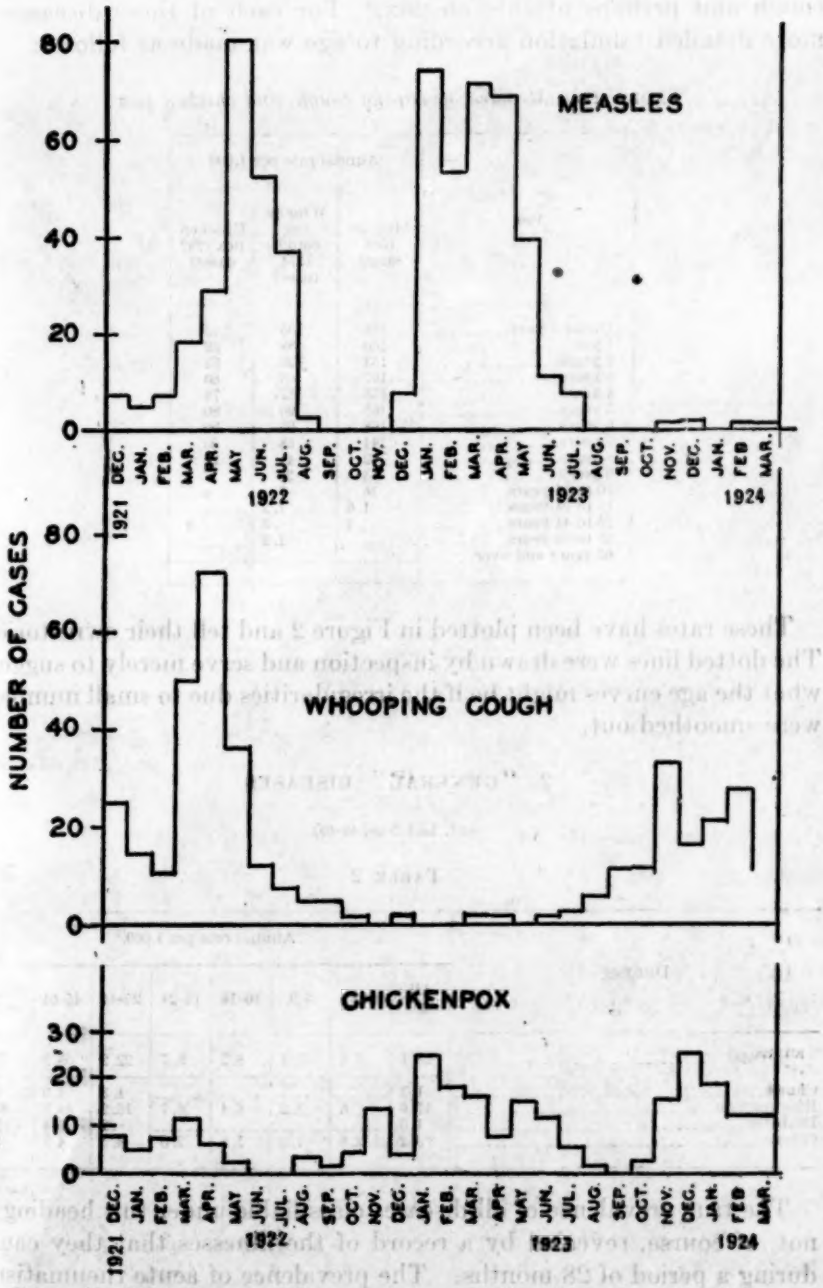

FIG. 1.—Monthly incidence of measles, whooping cough, and chicken pox, from December 1, 1921–March 31, 1924, in a white population group in Hagerstown, Md.

panying diagrams (fig. 1) exhibit the monthly numbers of cases and reveal a definitely epidemic prevalence of measles and whooping cough and perhaps of chicken pox.[5] For each of these diseases a more detailed tabulation according to age was made as follows:

TABLE 1a.—*Measles, whooping cough, and chicken pox*

Age	Annual rate per 1,000		
	Measles (568 cases)	Whooping cough (374 cases)	Chicken pox (232 cases)
Under 1 year	118	155	45
1 year	160	88	39
2 years	153	126	63
3 years	197	68	80
4 years	153	137	78
5 years	165	96	80
6 years	168	95	90
7 years	144	68	59
8 years	82	41	26
9 years	43	26	7
10 to 14 years	16	7	6
15 to 24 years	1.6	1.2	
25 to 44 years	.4	.9	.2
45 to 64 years		1.2	
65 years and over			

These rates have been plotted in Figure 2 and tell their own stories. The dotted lines were drawn by inspection and serve merely to suggest what the age curves might be if the irregularities due to small numbers were smoothed out.

2. "GENERAL" DISEASES

(Int. List Nos. 43–69)

TABLE 2

Diseases	Annual rate per 1,000							
	All ages	0–4	5–9	10–14	15–24	25–44	45–64	65 and over
Total	23.1	3.4	7.1	8.2	8.7	22.2	58.2	77.7
Cancer	1.3					1.3	3.9	6.2
Rheumatism	17.6	.6	5.2	6.4	6.7	16.2	44.3	67.9
Diabetes	1.0					.2	5.4	1.2
Others	3.2	2.8	1.9	1.8	2.0	4.5	4.7	2.5

The true prevalence of all diseases classifiable under this heading is not, of course, revealed by a record of the illnesses that they cause during a period of 28 months. The prevalence of acute rheumatism, which forms a large proportion of the total, is probably adequately

[5] The chronological variations in the incidence of illness from various causes will be presented in some detail in a later paper.

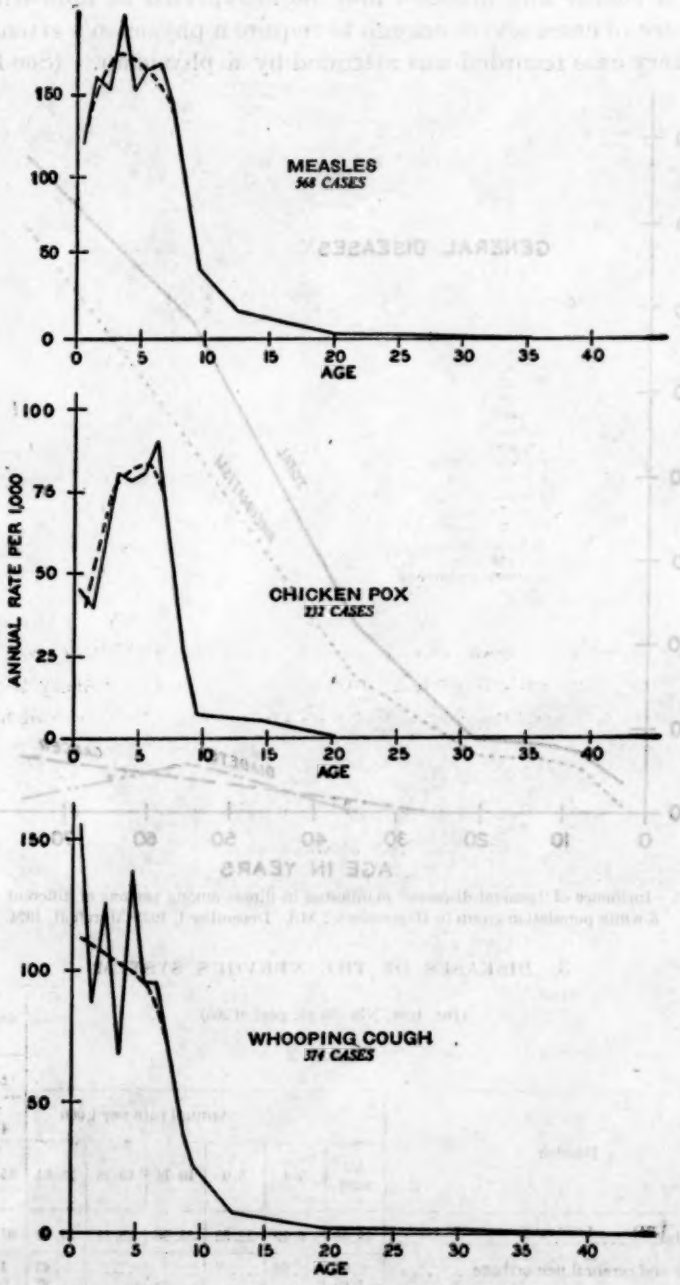

FIG. 2.—Incidence of measles, chicken pox, and whooping cough, among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924. The dotted, smooth lines were drawn by inspection

recorded, but certainly this can not be said of diabetes or cancer. Our record of cancer and diabetes may be interpreted as indicating the prevalence of cases severe enough to require a physician's attendance, since every case recorded was attended by a physician. (See fig. 3.)

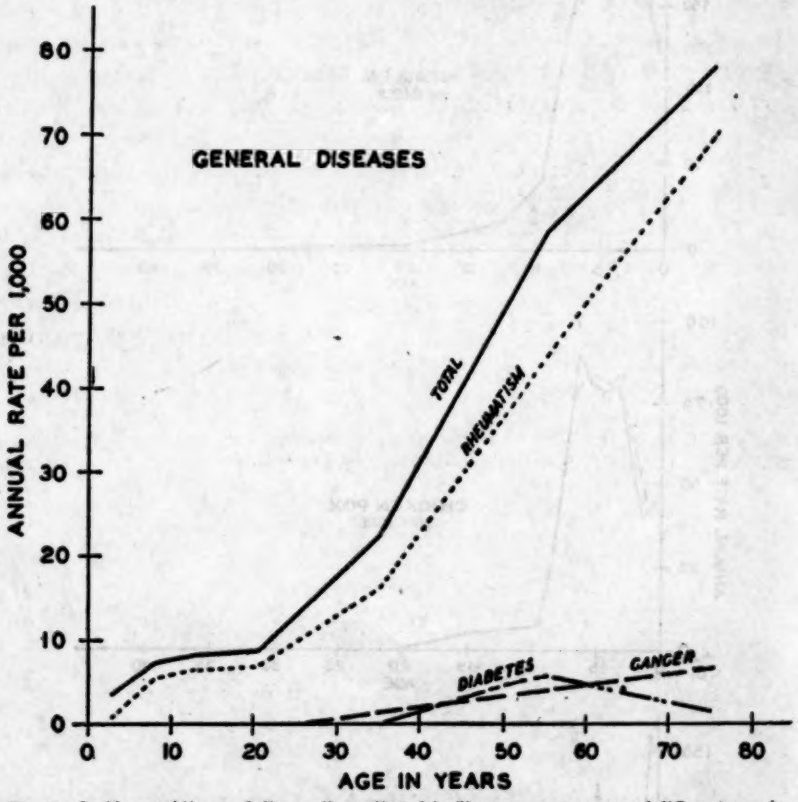

FIG. 3.—Incidence of "general diseases" manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

3. DISEASES OF THE NERVOUS SYSTEM

(Int. List. Nos. 70–84; part of 205)

TABLE 3

Disease	Annual rate per 1,000							
	All ages	0–4	5–9	10–14	15–24	25–44	45–64	65 and over
Total	48.56	6.19	22.33	51.96	28.51	57.94	87.37	88.86
Apoplexy and cerebral hemorrhage	.91	.56	-------	-------	-------	.43	1.16	9.87
Paralysis	1.63	-------	-------	.58	-------	.22	3.11	19.75
Epilepsy	.67	.56	-------	2.34	.79	.65	.39	-------
Chorea	1.21	-------	1.43	8.17	.79	-------	.39	-------
Neuralgia	7.33	.56	1.43	2.34	3.56	11.20	13.98	14.81
Neuritis and sciatica	5.75	-------	-------	-------	1.19	8.40	15.92	11.11
Neurasthenia and nervous exhaustion	13.08	1.69	3.33	5.84	9.90	17.02	26.79	20.98
Headache	15.20	1.13	14.73	30.36	7.13	17.23	22.91	8.64
Other nervous conditions	2.78	1.69	1.43	2.34	5.15	2.80	2.72	3.70

The fact that "headache" is a symptom that characterizes no particular syndrome makes its inclusion under diseases of the nervous system rather doubtful. One has the choice of classifying illnesses described as "headaches" under "ill-defined and unknown" or of including them under some other group titles preferably (perhaps) the nervous system. We adopted the latter course after excluding, however, from the foregoing table all headaches that were reported as occurring in conjunction with a disease or condition of which headache may be a symptom. The rates given above are based on those indispositions and illnesses which were reported as "headache" without any other related condition, and the reader can reclassify them as he pleases. The other conditions specified in the table seem to be fairly definite from the diagnostic point of view, either because they are commonly recognized, as in the case of neuralgia or sciatica, or for the reason that the attending physician's diagnosis was recorded. The extent to which the specific conditions were attended by physicians is shown below:

TABLE 3a.—*Extent to which cases of nervous diseases and conditions resulting in illness were attended by physicians*

Disease or condition	Number of cases	Per cent attended by physicians
Apoplexy and cerebral hemorrhage	9	100
Paralysis	23	96
Epilepsy	9	56
Chorea	19	89
Neuralgia	100	38
Neuritis and sciatica	86	58
Neurasthenia and nervous exhaustion	164	80
Headache	237	11
Other nervous conditions	39	67

The age incidence of these conditions is shown graphically in Figure 4 and needs no further comment except on one or two details.

The high incidence of headache in the age group 10 to 14 is undoubtedly significant, although we are not able to say what specific condition it is directly associated with. It is corroborated by the more extensive records of absences due to "headaches" in the Hagerstown schools.[6]

[6] Collins (*l*) reported the following:

Sickness resulting in absence from school due to "headache and neuralgia" as reported by child or parent, in white schools, Hagerstown, Md., December, 1921–May, 1925

Age	Annual * rate per 1,000	Age	Annual * rate per 1,000
6	142	12	402
7	196	13	384
8	255	14	377
9	296	15	357
10	321	16–18	267
11	318		

* Per school year of 180 days

The rate quite definitely exhibited a maximum in the ages 10 to 14.

Whether or not all of the chorea was true chorea, it is impossible to say; all except two of the 19 cases were diagnosed by attending physicians, and all of the attacks were severe enough to result in illness. While 80 per cent of the cases recorded as "neurasthenia" and "nervous exhaustion" were so diagnosed by attending physicians, it is probable that this diagnosis was not infrequently used as a generic or vague term to designate a condition due to more specific causes. The higher incidence of paralysis than of apoplexy and cerebral

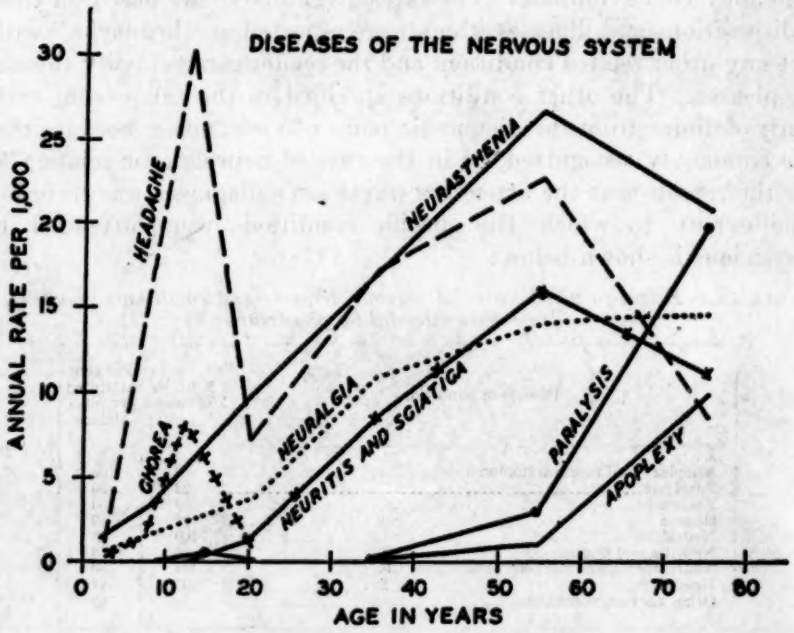

FIG. 4.—Incidence of certain diseases and conditions of the nervous system manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

hemorrhage is due, of course, to the fact that the former included conditions continuing from lesions that occurred before our study was made, whereas the latter occurred during the 28 months of observation.

Lumbago and myalgia, in accordance with the International List of Causes of Death, are classified under "Diseases of the bones and organs of locomotion," but obviously belong with diseases of the nervous system. They are given immediately below.

4. DISEASES OF THE BONES AND ORGANS OF LOCOMOTION

(Int. List Nos. 155-158; part of 205)

TABLE 4

Disease	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total	7.02	1.13	2.38	2.92	1.98	10.55	13.59	16.04
Lumbago, myalgia, myositis	3.15	.56	1.43	1.17	------	4.74	7.38	6.17
Backache (part of 205)	2.30	------	------	.58	.79	4.09	3.49	6.17

"Backache" may be regarded as a symptom of any of several causes or as an indeterminate name for lumbago. The "diseases of the bones" were too few to classify separately.

5. DISEASES AND CONDITIONS OF THE EYE AND ANNEXA

(Int. List No. 85)

TABLE 5

Disease	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total	8.42	8.44	16.16	16.93	4.36	5.38	6.60	7.40
Conjunctivitis, bacillary (pink eye)	2.00	2.25	4.28	5.25	.79	1.08	1.16	------
Conjunctivitis, other and "sore eye"	3.57	3.94	8.08	6.42	1.52	1.94	3.88	1.23
Sty	1.09	1.69	1.90	1.75	.79	1.29	------	------
Other "eye trouble"	1.70	.56	1.90	3.50	1.19	1.08	1.55	6.17

In the absence of adequate eye examinations, it is impossible of course to interpret the rates given above except in a very general way. Most of the conditions classified under "other eye trouble" were attended by physicians and were eye defects rather than acute attacks of disease. We may, therefore, roughly divide the incidence of the eye conditions recorded into two categories: (*a*) Those of an acute nature due principally to infections, such as sties, pink eye, and other forms of conjunctivitis, and (*b*) those due to defects. The rates for these two groups have been plotted in Fig. 5, as well as the curve for markedly defective vision (20/50 or worse in one or both eyes) which has been published for a large group by Collins and Britten (*2*). A comparison of the curve for defective vision with that for "other eye trouble" suggests that the conditions classified under the latter were due principally to defects. Although some of them occurred among children of school age, the "other eye troubles" increased with age; the incidence of acute disabilities, due princi-

pally to infections, on the other hand, occurred chiefly among children. The incidence of specific conditions in the latter group is shown graphically in Figure 6.

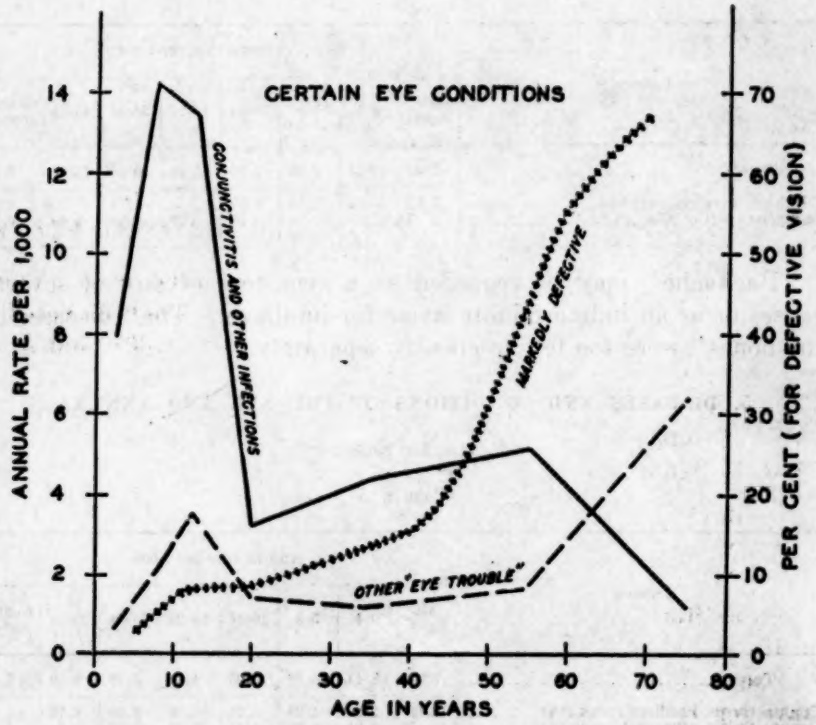

FIG. 5.—Incidence of certain eye conditions among persons of different ages in a white population group in Hagerstown, Md., and of markedly defective (20/50 or worse) vision according to Britten and Collins

6. DISEASES OF THE EAR AND MASTOID PROCESS

(Int. List No. 86)

TABLE 6

Disease	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total	15.01	40.52	37.06	26.27	7.92	5.17	2.33	2.47
Otitis media	10.05	35.46	20.91	15.76	2.77	4.31	1.55	1.23
Mastoiditis	.67	------	1.43	------	2.38	.43	------	------
Earache	3.21	3.94	12.35	8.17	1.58	------	------	1.23

The fact that diseases of the ear so far as they are manifested in illness are largely confined to children is clearly apparent.

The record of absences in the Hagerstown schools due to "earache and ear diseases" (*1*) exhibits the same curve in greater detail for children of school age.

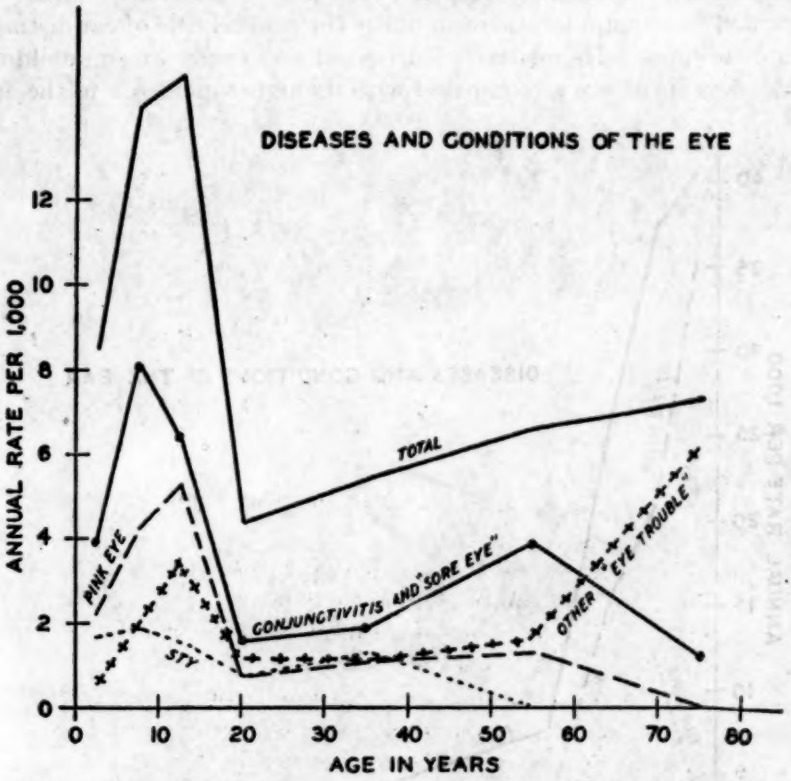

FIG. 6.—Incidence of certain diseases and conditions of the eye manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

TABLE 6a.—*Absences due to "earache and ear diseases" in Hagerstown schools December, 1921–May, 1925*

Age	Earache and ear diseases		Earache		Ear diseases	
	Number of cases	Rate per 1,000 *	Number of cases	Rate per 1,000 *	Number of cases	Rate per 1,000 *
6	88	102	71	82	17	19.8
7	131	76	116	67	15	8.7
8	128	73	112	64	16	9.1
9	107	66	93	57	14	8.7
10	69	43	54	33	15	9.3
11	69	46	52	35	17	11.4
12	63	49	54	42	9	7.0
13	40	34	32	27	8	6.8
14	33	33	24	24	9	9.1
15	16	23	11	16	5	7.3
16-18	13	13	6	6	7	7.1

* Rate per 1,000 children per school year of 180 school days.

Otitis media was shown quite definitely to be a disease of children, and followed closely the curve of infectious diseases (fig. 7). The number of cases of mastoiditis is too small to offer any evidence as to variations in incidence according to age. "Earache" must be regarded as a symptomatic term under the general title of ear diseases and conditions. Its relatively infrequent occurrence among children under 5 years of age as compared with its higher incidence in the age

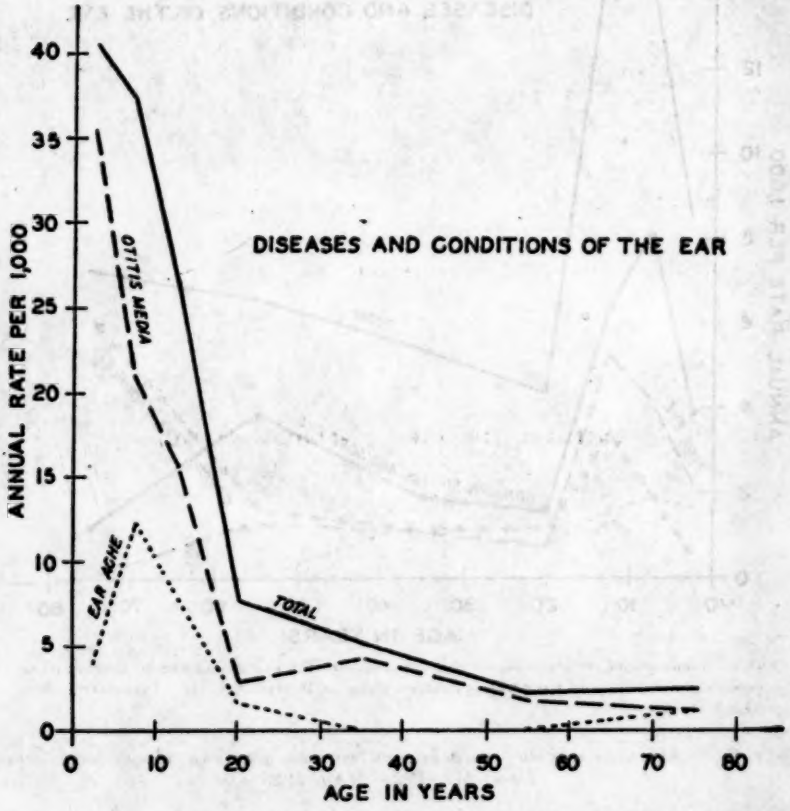

FIG. 7.—Incidence of certain diseases and conditions of the ear manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

period 5 to 9 years is probably more apparent than real; it is doubtless due in part to the fact that it is a subjective rather than an objective symptom and in part probably to a tendency to call in a physician in cases of earache more frequently for younger children than for older. This possibly increases the recorded incidence of otitis media among young children.

7. DISEASES OF THE CIRCULATORY SYSTEM

(Int. List Nos. 87–96)

TABLE 7

Diseases and conditions	Annual rate per 1,000							
	All ages	0–4	5–9	10–14	15–24	25–44	45–64	65 and over
Total	24.04	12.38	10.93	18.10	11.09	15.72	43.88	117.24
Diseases of the heart	13.44	.....	2.38	9.92	7.13	9.69	25.24	74.05
Arteriosclerosis	1.94	.....	.....	.....	.....	.....	1.55	34.56
High blood pressure	1.82	.....	.....	.....	.40	.86	8.15	4.94
Hemorrhoids	1.09	.....	.....	.....	.40	1.94	3.11	.....
Adenitis	3.45	11.82	6.18	6.42	2.38	.86	.78	.....
Nosebleed and other hemorrhage	1.03	.56	1.90	.58	.40	.....	2.72	3.70
Other circulatory	1.27	.....	.48	1.17	.40	2.37	2.33	.....

The caution already emphasized, that our data are not records of defects as discovered by medical examination and clinical observation but records of illness due to more or less specific conditions, is particularly pertinent in interpreting the age incidence of illnesses

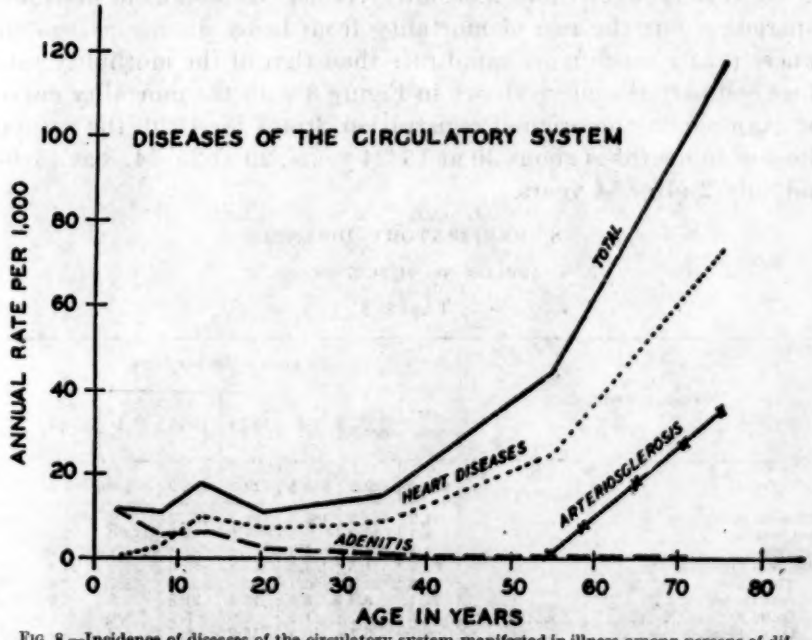

FIG. 8.—Incidence of diseases of the circulatory system manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

due to circulatory diseases. Yet, for the most part, these illnesses were real disabilities, and 83 per cent of the 287 cases were attended by physicians.

The incidence of illness due to circulatory diseases and conditions among children and adolescents was due in part to glandular inflammation, especially in the ages under 10 years. (Fig. 8.) Diseases of the heart were relatively more frequent causes of illness in the age period 10–14 than at younger ages or until adult life, an indication

which is reflected in the age specific mortality rate for this group of causes. This indication appeared also in the records of absences due to heart conditions among the Hagerstown school children during (*1*) the period 1921–1925. Although the number of cases (60) is small, a variation according to age seems to be manifested within the school-age period, as follows:

TABLE 7a.—*Absences due to heart conditions in the Hagerstown schools, December, 1921, to May, 1925*

Age	Rate per 1,000 •	Number of cases	Age	Rate per 1,000 •	Number of cases
6	3.5	3	12	7.7	10
7	1.2	2	13	5.1	6
8	2.8	5	14	7.0	7
9	1.9	3	15	2.9	2
10	5.6	9	16–18	3.0	3
11	6.7	10			

• Rate per 1,000 children per school year of 180 school days.

The familiar rise in prevalence of heart disease in middle and old age is evidenced in these morbidity records as well as in mortality experience, but the rise of mortality from heart disease as age advances is at a much more rapid rate than that of the morbidity rate. If we compare the curve shown in Figure 8 with the mortality curve, for example, in the original registration States for 1920, the ratio of illnesses to deaths is about 30 at 15–24 years, 20 at 25–44, 8 at 45–64, and only 2 after 64 years.

8. RESPIRATORY DISEASES

(Int. List Nos. 11, 31, 97–107, 109)

TABLE 8

Disease or condition	Annual rate per 1,000							
	All ages	Under 5	5–9	10–14	15–24	25–44	45–64	65 and over
Total	664.5	929.2	913.8	779.9	496.9	568.8	503.7	597.3
Influenza and grippe	114.2	115.9	163.0	162.3	107.7	162.6	149.5	132.0
Pneumonia	8.7	40.0	9.5	7.0	2.0	3.0	5.4	9.9
Pleurisy	2.3	1.1	1.9	.6	2.4	2.2	4.7	3.7
Diseases of the pharynx	66.7	44.5	153.0	155.3	69.3	39.0	20.6	11.1
Tonsillitis	28.6	31.0	56.1	61.9	32.9	18.7	7.0	3.7
Sore throat	26.1	8.4	78.9	75.3	21.8	9.0	6.6	4.9
Quinsy	3.3	-------	1.9	2.9	5.1	5.0	1.6	-------
Other pharynx	8.7	5.1	16.2	15.2	9.5	6.2	5.4	2.5
Diseases of the larynx	11.4	20.3	24.7	8.8	4.4	7.8	12.4	6.2
Croup	5.3	18.0	20.9	5.3	.4	.2	.4	-------
Laryngitis	5.1	2.3	3.8	2.3	2.8	6.7	9.7	6.2
Other diseases of the larynx	1.0	-------	-------	1.2	1.2	.9	2.3	-------
Hay fever	2.0	-------	-------	-------	2.8	2.4	3.5	6.2
Asthma	4.1	-------	.5	5.3	2.8	5.2	5.4	12.3
Pulmonary tuberculosis	3.3	-------	.5	.6	5.5	5.4	3.1	1.2
Other diseases of the respiratory system (including head colds, chest, and bronchial conditions)	421.9	707.5	560.7	440.2	300.1	341.4	389.1	414.7
Coryza •	217.1	362.2	271.5	232.6	146.0	202.0	169.7	174.7
Bronchitis (acute and chronic) •	123.5	269.6	181.3	94.2	56.0	87.0	115.2	161.7
Chest colds, coughs, and bronchial conditions •	53.3	89.5	75.0	48.9	28.0	43.3	56.8	65.2
Tonsillectomy and (or) adenoidectomy	7.3	7.3	31.4	9.9	5.1	2.2	.4	-------
Other operations of nasal fossae	.5	-------	-------	-------	1.6	.4	.4	-------

• Based on records from February 1, 1923–March 31, 1924.

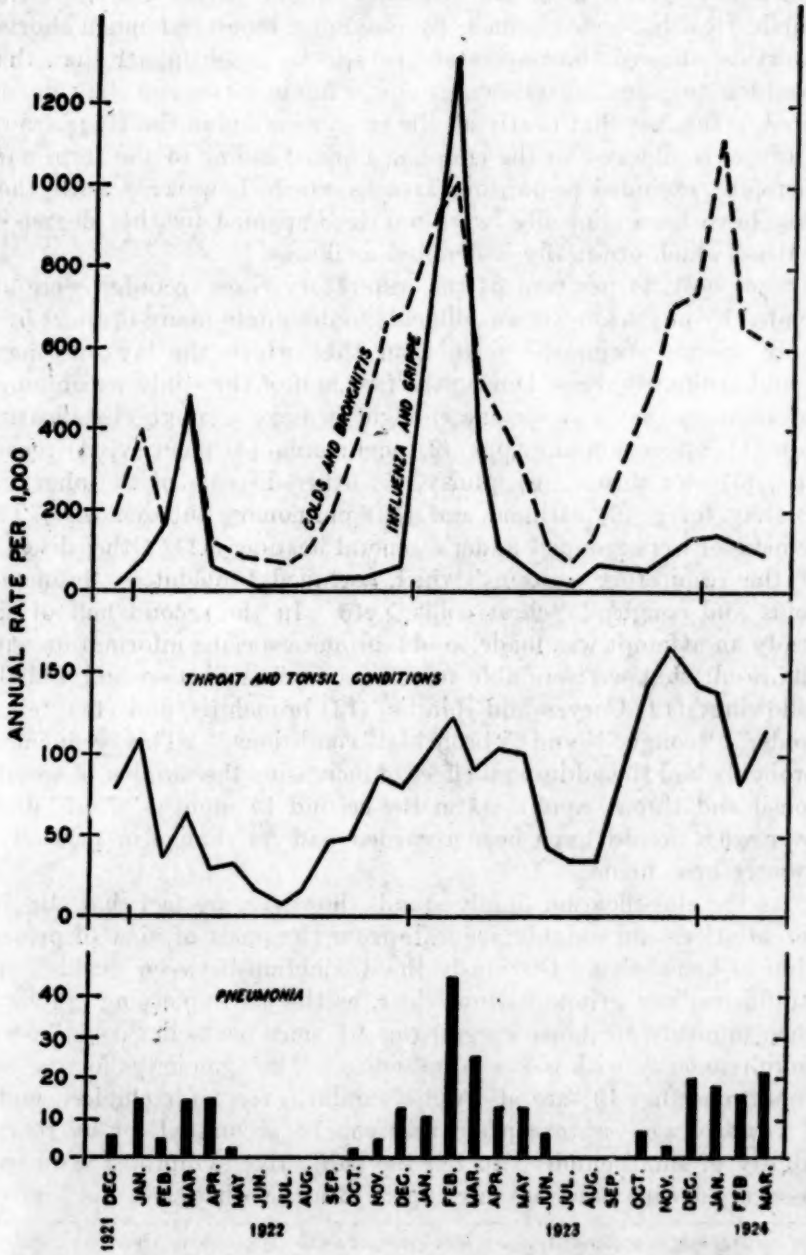

FIG. 9.—Monthly incidence of certain respiratory diseases and conditions in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

Many minor respiratory affections were not included in the records we obtained. This was evident at the time the study was made, and is also shown to be true by later studies of the United States Public Health Service, which, by obtaining reports at much shorter intervals, showed the respiratory rate to be much higher than that recorded for the Hagerstown group.[7] Again, attention may be invited to the fact that nearly all the cases recorded in the Hagerstown study were illnesses in the common understanding of the term and, therefore, excluded respiratory attacks which, however definite they may have been clinically, were not accompanied by that degree of malaise which ordinarily is denoted as illness.

Since only 34 per cent of the respiratory cases recorded were attended by physicians, it was difficult to designate many of them by a more specific diagnostic term than that which the lay informant would ordinarily use. During the first half of the study we obtained information that was specific enough to make a rough classification into (1) influenza and grippe, (2) pneumonia, (3) pleurisy, (4) tonsillitis, (5) sore throat, (6) quinsy, (7) other diseases of the pharynx, (8) hay fever, (9) asthma, and (10) pulmonary tuberculosis. The remainder were grouped under a general heading (11) "Other diseases of the respiratory system" which included bronchitis, "bronchial colds and coughs," "chest colds," etc. In the second half of the study an attempt was made to obtain more specific information with the result that we were able to refine our classification and add the following: (12) Coryza and rhinitis, (13) bronchitis, and (14) "chest colds," "cough," and "bronchial conditions." This refinement probably had the additional effect of increasing the number of specific tonsil and throat conditions in the second 14 months of our study over what would have been recorded had no change in method of inquiry been made.

As the classification finally stands, however, we feel that the differentiations are roughly accurate from the point of view of present clinical knowledge. Obviously the distinction between "colds" and "influenza and grippe" is not clear, as the accompanying graphs of their monthly incidence suggest (fig. 9), since peaks in "colds" occur simultaneously with peaks in influenza. The age curves for the two conditions (fig. 10) are also quite similar, except for children under 5 years of age—an exception that can be accounted for by the inability of small children to tell the subjective symptoms ordinarily associated with influenza or grippe. But the other classes or kinds of

[7] A study based on semimonthly reports from a group of medical officers of the Army, Navy, and Public Health Service and members of several college faculties upon the incidence of respiratory attacks among themselves and members of their families showed a rate of 2.009 per 1,000 during 1924 (3). A similar study for several thousand college students reporting upon themselves showed a rate of 2,877 per 1,000 during the period June 1, 1924–May 30, 1925.

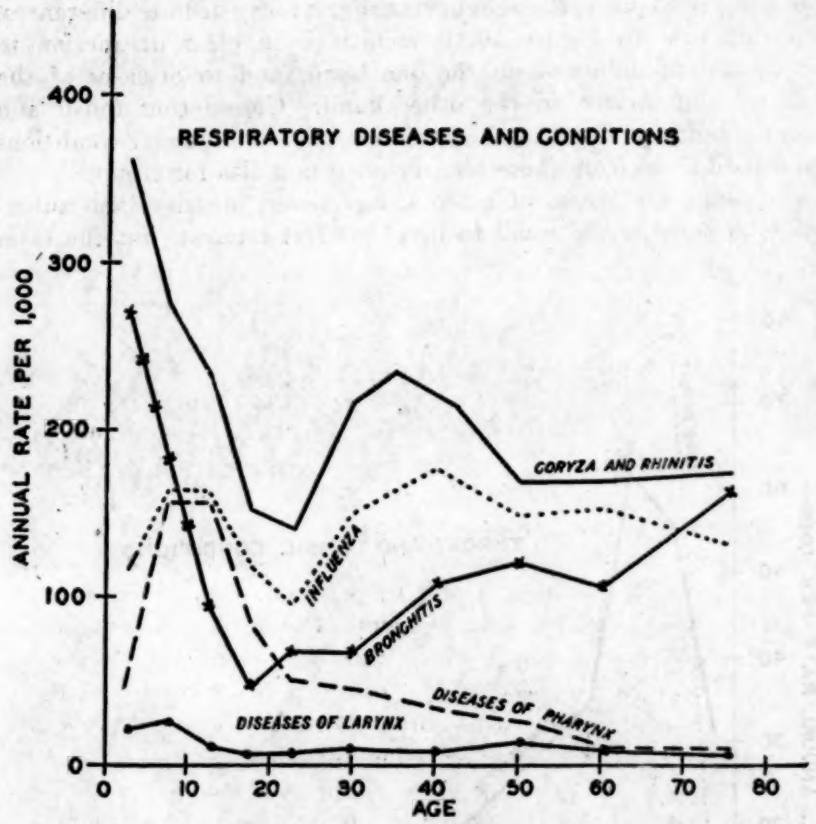

FIG. 10.—Incidence of respiratory diseases and conditions manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

respiratory affections and diseases seem to be fairly well differentiated. In the first place, a considerable proportion of each were diagnosed by attending physicians, as the following table shows:

TABLE 8a.—*Proportion of cases of various respiratory diseases that were attended by physicians*

Disease or condition	Number of cases	Per cent attended by physicians
Pulmonary tuberculosis	48	98
Pneumonia	111	97
Pleurisy	33	88
Tonsillitis	465	73
Influenza and grippe	2,317	67
Other diseases of the pharynx	99	65
Hay fever and asthma	86	47
Laryngitis	92	36
Croup	86	33
Sore throat	497	21
Colds, unqualified	828	14
Coryza	1,780	7

In the second place, the age curves suggest fairly definite differences. Referring first to Figure 10, bronchitis is in clear distinction to coryza and to influenza on the one hand, and to diseases of the pharynx and larynx on the other hand. Considering tonsil and throat conditions (fig. 11), the age curves for pharyngeal conditions is quite different from those for laryngitis and also for croup.[8]

The number of cases of asthma, hay fever, pleurisy, and tuberculosis is perhaps too small to be of general interest, but the rates

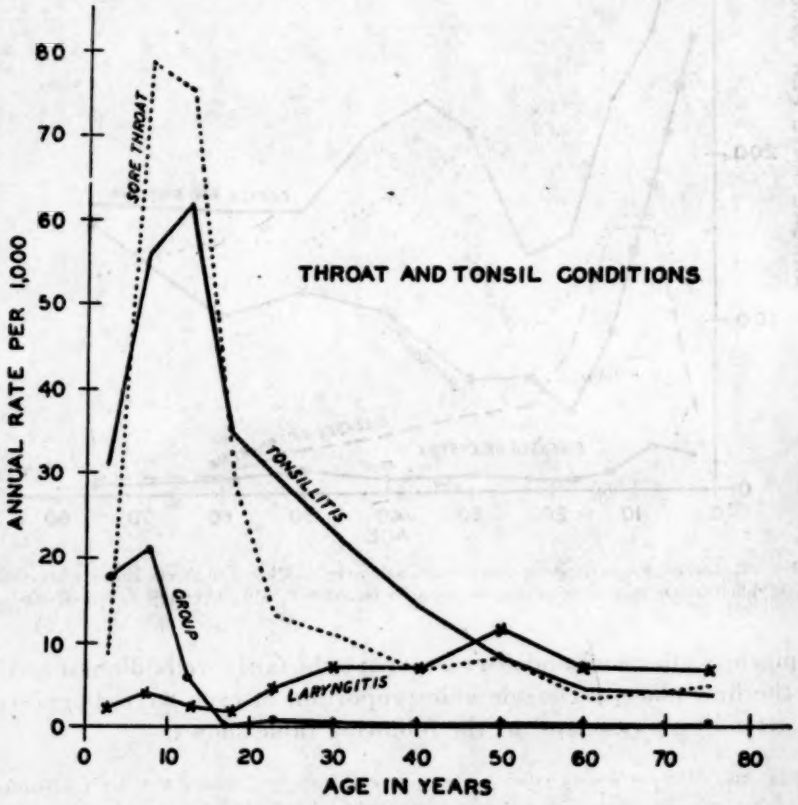

FIG. 11.—Incidence of throat and tonsil conditions manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

are plotted in Figure 12 as a record of our experience. In general, they conform to the indications afforded by such other morbidity data as are available. With respect to tuberculosis, it may be pointed out that only active cases resulting in some degree of disability during the period of observation were recorded.

[8] The epidemiological and etiological evidence bearing on this point is presented and discussed in detail by Collins (4) in his monograph "An Epidemiological and Statistical Study of Tonsillitis, Including Related Throat Conditions." The Hagerstown data will be considered in greater detail in a review of the morbidity records from all sources bearing on respiratory attacks, which is in preparation.

9. DISEASES OF TEETH AND GUMS

(Int. List No., Part of 108)

TABLE 9

Disease or condition	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total	8.23	1.13	9.98	18.68	8.31	9.05	6.21	2.47
Abscesses	3.21	0.56	1.90	6.42	4.75	3.66	3.11	------
Toothache	2.91	0.56	5.70	10.51	2.38	2.37	------	------

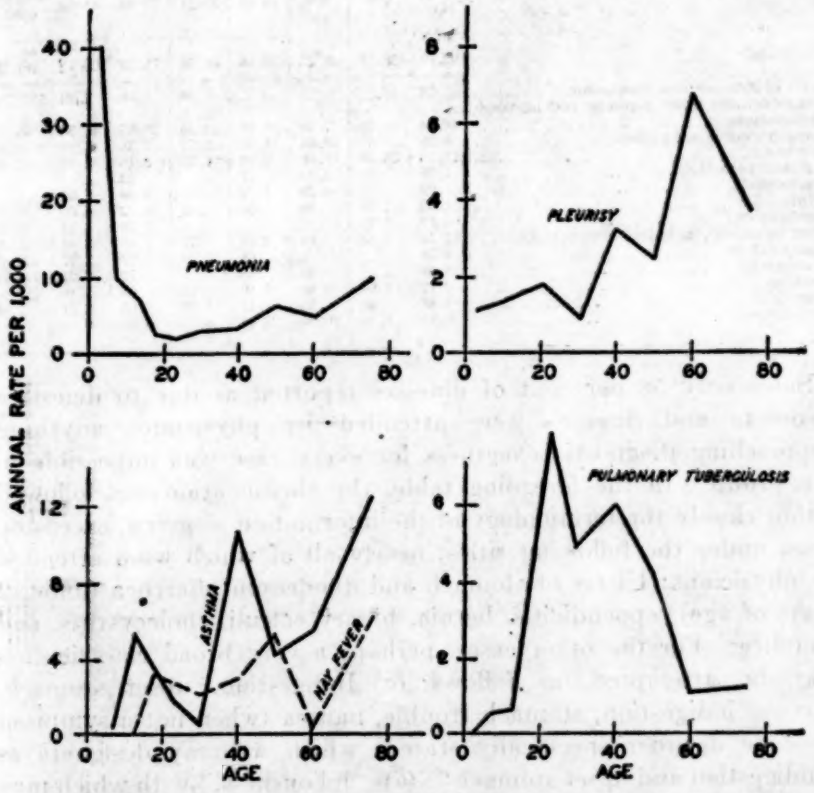

FIG. 12.—Incidence of certain respiratory diseases and conditions manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

This record can not, of course, be interpreted as indicating the prevalence of defective teeth and diseased gums. It indicates nothing more than the incidence of diseases and conditions that manifested themselves in abscesses and in pain severe enough to result in temporary disablement. About 60 per cent of these cases caused the patient to go to a dentist or a physician.

In so far as this record is suggestive, it indicates a relatively high incidence of dental and gum conditions in the age periods 10–14 and 15–24 after the permanent teeth have developed. This indication is also given by the larger number of records for the school ages collected by Collins (*1*) from the Hagerstown schools.

10. DISEASES AND DISORDERS OF THE DIGESTIVE SYSTEM

(Int. List Nos. 110–127; part of 108 and of 205)

TABLE 10

Disease	Annual rate per 1,000							
	All ages	0–4	5–9	10–14	15–24	25–44	45–64	65 and over
Total	102.01	158.71	148.25	130.18	61.76	71.29	109.11	101.20
Ulcers of stomach and duodenum	.73	-------	-------	-------	.40	1.08	2.33	-------
Indigestion and upset stomach and nervous indigestion	44.74	69.23	77.93	58.96	24.55	28.65	44.26	48.13
Stomach trouble and nausea	8.29	7.32	19.01	14.01	2.77	5.38	7.38	9.87
Diarrhea	13.26	58.53	7.60	9.92	6.33	8.18	8.15	7.40
Intestinal parasites	1.39	7.32	3.33	1.17	-------	.22	-------	-------
Appendicitis	5.99	.56	4.28	7.59	12.27	5.38	6.21	-------
Hernia	1.63	.56	.48	.58	.40	1.72	4.66	3.70
Constipation	.85	1.13	-------	-------	-------	1.29	1.16	3.70
Other intestinal, including obstructions	1.51	1.13	.95	2.92	.79	.86	3.49	1.23
Biliary calculi	4.36	-------	-------	.58	2.38	7.97	7.77	2.47
Cholecystitis	1.94	-------	.48	.58	-------	1.72	6.21	3.70
Jaundice	2.72	3.94	9.98	3.50	1.98	.65	1.16	-------
Other liver	1.88	.56	.95	1.17	.40	.65	6.21	7.40
"Biliousness"	10.41	4.50	20.91	27.44	8.71	4.31	8.54	11.11

Since only 58 per cent of illnesses reported as due to digestive disorders and diseases were attended by physicians, anything approaching diagnostic exactness for every case was impossible in this group. In the foregoing table, the classification has followed rather closely the terminology of the information as given, excepting cases under the following titles, nearly all of which were attended by physicians: Ulcers of stomach and duodenum, diarrhea (under 2 years of age), appendicitis, hernia, biliary calculi, cholecystitis, and jaundice. For the other cases, perhaps a very broad classification may be attempted, as follows: (*a*) Indigestion, upset stomach, nervous indigestion, stomach trouble, nausea (when not a symptom of some disorder specifically stated) which we may designate as "indigestion and upset stomach"; (*b*) "biliousness," with which may be placed "other liver conditions"; and (*c*) diarrhea. The classification is made partly on grounds that are apparent and partly by reason of similarity and dissimilarity of age curves, so that, as shown in Figure 13, diarrhea exhibits a definitely high incidence among children under 5 years of age, and thereafter does not vary greatly according to age; "indigestion and upset stomach"—some of which may have been attended by diarrhea, it is true—had a high incidence among children under 15, with its peak between 5 and 10

years; "biliousness" was less commonly reported, but was relatively frequent in the age period 5 to 9 years and was most frequent in the 10 to 14 years period. The incidence of illnesses classified under the last two headings was lowest in the young adult period, but rose gradually as age advanced.

The age curves of jaundice, appendicitis, biliary calculi, cholecystitis, and hernia have been plotted in Figure 14 and are in general accord with textbook observations. It is believed that they are

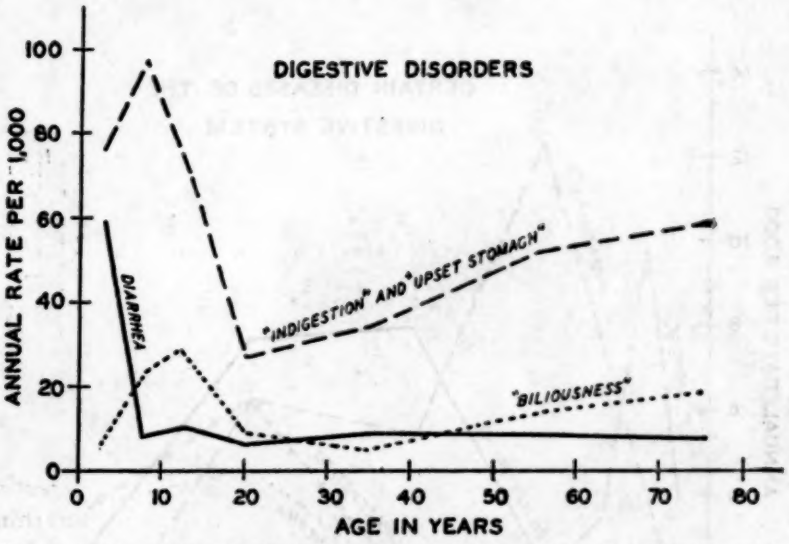

FIG. 13.—Incidence of digestive disorders manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

especially interesting for the reason that, so far as we are aware, they are based on a record of recognized cases (i. e., resulting in illness and attended by physicians) in a definitely enumerated general population group.

11. DISEASES OF THE KIDNEY AND ANNEXA

(Int. List Nos. 128-134)

TABLE 11

Disease or condition	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total	14.35	9.00	5.70	6.42	4.36	10.77	30.29	66.64
Nephritis	5.03	.56	.48	1.75	2.38	1.72	12.43	38.26
"Kidney trouble," unqualified	5.51	7.88	3.33	4.67	1.98	5.82	7.38	12.34
Calculi of urinary passages	.85					.65	3.11	3.70
Cystitis	1.39					.86	3.88	8.64
Other "bladder trouble"	1.45	.56	1.90			1.29	3.49	3.70

The rates in the table above, it may be emphasized, can not be interpreted as revealing the true prevalence of the diseases and conditions specified; they merely show the frequency of illnesses in which these diseases and conditions were stated to be causes during the period of the study. Of the 175 cases in which they were so recorded, 86 per cent were attended by physicians, and on approximately that proportion the attending physicians recorded the diagnoses as reported. The remaining 14 per cent consisted chiefly of cases reported as "kidney trouble."

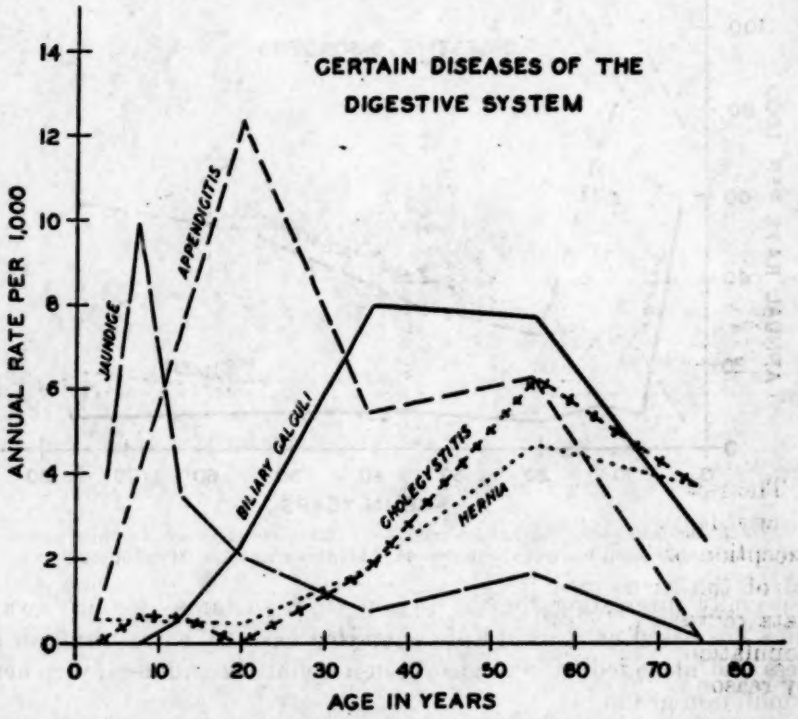

FIG. 14.—Incidence of certain diseases of the digestive system manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

Except for some prevalence of a condition or conditions vaguely reported and diagnosed as "kidney trouble" in children and in the younger adult ages, it is quite evident that diseases and conditions in this group caused illness in middle and old age, especially in old age, to a greater extent than at younger ages.

The age curve of illness from nephritis is generally similar to that for mortality from acute nephritis and Bright's disease, but the ratio of cases to deaths decreases rapidly with age. Even if we include all illnesses from kidney conditions, such a ratio of cases to deaths would show a marked decline. Using the 1920 mortality rates for

the registration area, the ratio of the Hagerstown illnesses rate (assuming it to be representative in some degree) to the death rate declined from about 70 under 15, to 40 at 15–25, 20 at 25–44, 10 at 45–64, and 5 at 65 and over. The morbidity rates and these ratios mean nothing more, of course, than that as age advances, not only does the incidence of the disease increase but its fatality does also. Our record of cases and deaths in the population observed is too scanty and too brief to permit of any attempt to ascertain or estimate fatality rates.

12. NONVENEREAL DISEASES OF THE GENITO-URINARY SYSTEM

(Int. List Nos. 135-142)

TABLE 12

Disease or condition	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total [a]	13.02	1.13	1.43	8.17	17.02	21.11	17.47	7.40
Diseases of male organs [b]	1.50	2.12	1.83	1.18	.83	.46	.80	11.56
Salpingitis [c]	2.47	-------	.99	-------	4.53	4.84	1.51	-------
Tumor and cysts of ovary and uterus [c]	2.11	-------	-------	-------	2.26	4.44	1.51	2.15
"Menstrual trouble" [c]	6.11	-------	-------	13.84	15.85	5.25	4.52	-------
Menopause [c]	4.81	-------	-------	-------	-------	6.05	18.09	-------
Others of female genital organs [c]	8.34	-------	-------	1.15	9.06	18.56	7.54	2.15

[a] Rates computed on males and females. [b] Rates computed on males. [c] Rates computed on females.

The rates given above are probably based on too few cases to be in any degree typical, but they are not without interest. With the exception of 22 of the 47 cases of "menstrual troubles," practically all of the cases in this group were attended by physicians. The data represent, therefore, the prevalence of these conditions in our population to the extent that they come to the attention of physicians by reason of illness.

13. THE PUERPERAL STATE

(Int. List Nos. 143-150)

TABLE 13

Condition	Annual rate per 1,000 females			
	10-14	15-24	25-44	45-64
Total	2.31	84.55	110.98	2.26
Abortion and stillbirth	1.15	3.02	11.30	-------
Confinements	-------	74.73	87.17	-------
Other puerperal conditions	1.15	6.79	12.51	2.26

The annual birth rate for our population was 19.6. Based on females aged 15–44, the birth rate was 65.2. The stillbirth (and abortion) ratio was 10.2 per 100 live births—an extremely high ratio when compared with records ordinarily published in vital statistics.[9] Obviously this can not be taken to indicate the occurrence of an unusual frequency of stillbirths as there was every reason to believe that the ratio for the population studied would not be higher than the average. Rather, the reason lies in the fact that we were able to secure a record of a larger proportion of stillbirths than is ordinarily reported and, in addition, a partial record of abortions. Our record is, we believe, probably not far wrong, since the field assistants made repeated visits to the same households.

14. DISEASES OF THE SKIN AND CELLULAR TISSUE

(Int. List Nos. 151–154; part of 205)

TABLE 14

Disease	Annual rate per 1,000							
	All ages	0–4	5–9	10–14	15–24	25–44	45–64	65 and over
Total	19.43	39.96	40.39	33.27	10.69	10.34	7.38	14.81
Furuncle	4.66	3.38	9.03	6.42	4.75	4.31	2.33	2.47
Abscess	1.88	1.60	1.90	1.75	1.58	2.80	.78	1.23
Scabies and itch	1.45	3.38	3.80	5.84	------	------	------	------
Impetigo contagiosa	1.51	3.94	4.28	2.34	1.19	.43	------	------
"Sores" on body	4.06	15.20	10.93	8.17	.40	.43	------	------
Hives and rash	2.91	7.88	6.18	3.50	1.98	.86	1.94	1.23
Other and unqualified skin	2.97	4.50	4.28	5.25	.79	1.51	2.33	9.87

It was difficult to classify the various skin affections that were recorded except in those instances in which a physician's diagnosis was obtained. Hence the incidence of specific diseases included in the above table has probably been understated, although their variations according to age are roughly indicated. The percentages of the cases, as classified above, which were attended by physicians were as follows: Furuncle, 48 per cent; abscess, 82; impetigo, 71; scabies and itch, 52; rash, 39; hives, 47; "sores" on body, 28; other, 89; total 55. The incidence of rash, impetigo contagiosa, and "sores" was greatest among children under 10 years of age; of scabies in the age period 10–14; of furuncles and abscesses under 45 years of age, with its peak in the 5–9 age period. Some of the more specific diseases have been plotted on Figure 15.

[9] The stillbirth ratio for whites in the birth registration area was 3.8 per 100 live births in 1925 and for whites in Maryland was 5.8.

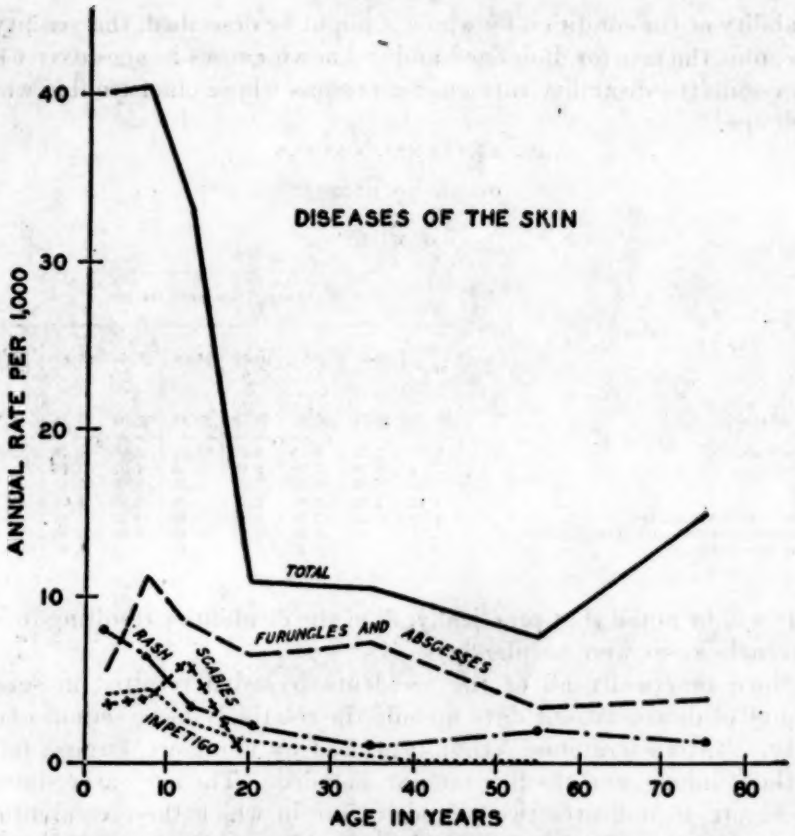

FIG. 15.—Incidence of diseases of the skin and cellular tissue manifested in illness among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

15. CONGENITAL MALFORMATIONS AND EARLY INFANCY, SENILITY, AND ILL-DEFINED AND UNKNOWN CAUSES

(Int. List Nos. 159-163, 164, 205)

TABLE 15

Cause	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Congenital malformations and "early infancy"	1.15	7.32	0.95	1.75				
Senility	.85							17.28
Ill-defined and unknown	10.29	26.45	8.55	9.34	4.36	7.75	10.48	13.58

The foregoing table requires little comment. The largest proportions of ill-defined or unknown causes of illness were, as might be expected, for young children and old persons. The senility rate of 17 is based on 14 persons, which is lower than we anticipated. However, since emphasis was laid on ascertaining the cause of every illness and

disability or the condition by which it might be described, this senility rate, plus the rate for ill-defined and unknown causes in ages over 64, represents the disability rate among persons whose chief trouble was their age.

16. EXTERNAL CAUSES

(Int. List Nos. 165-203)

TABLE 16

Cause	Annual rate per 1,000							
	All ages	0-4	5-9	10-14	15-24	25-44	45-64	65 and over
Total	39.72	28.70	45.62	43.78	32.46	32.52	55.14	46.90
Poisonings	2.78	3.38	4.75	4.67	1.58	2.80	.78	2.47
Burns	2.12	4.50	2.38	2.92	1.58	1.72	1.94	------
Cuts	3.69	3.38	5.23	7.59	3.56	2.58	3.11	1.23
Falls	4.42	2.81	2.85	5.25	1.19	3.23	6.99	12.34
Auto, street railway, etc	3.39	2.25	3.80	1.17	3.96	3.23	5.44	1.23
Fractures, wounds, and other injuries	21.07	11.82	25.66	21.02	18.61	16.80	31.84	25.92
Other external	2.24	.56	.95	1.17	1.98	2.15	5.05	3.70

It will be noted that practically all of the disabilities resulting from external causes were accidents.

Since practically all of the accidents recorded resulted in some degree of disability, our data include the relatively more serious ones only. "Mere scratches," thumb bruised by hammers, bumps, falls without injury, and the like are not included. The age curve shown in Figure 16 indicates two periods of life in which these disabilities are most frequent—5–14 years of age and in middle age. This is in marked contrast to the usual age curve for mortality from violent causes which is higher among children under 5 years of age than in any age period until old age when it rises precipitately; the frequency of fatal accidents is thus clearly indicated to be greatest at the extremes of life.

It was not practicable to find out sufficient details about each accident to classify all under more refined headings than those given in the table, but the rates for such specific kinds of accidents as burns, cuts, falls, automobile and street-railway accidents are fairly accurate, and are plotted in Figure 17. Cuts and burns are, of course, concomitants of childhood, but they were most frequent in the age period 10–14 years. Falls were also most frequent in that age period, except in the older ages. Three ages of high incidence of automobile accidents are indicated—children 5–9, the age period 15–24, and persons of middle age (45–64), in which age group the highest incidence occurred. Although Hagerstown is a small city (30,000 population in 1922–23), the automobile and street-railway accident rate was 3.4 per 1,000 annually in the population studied.

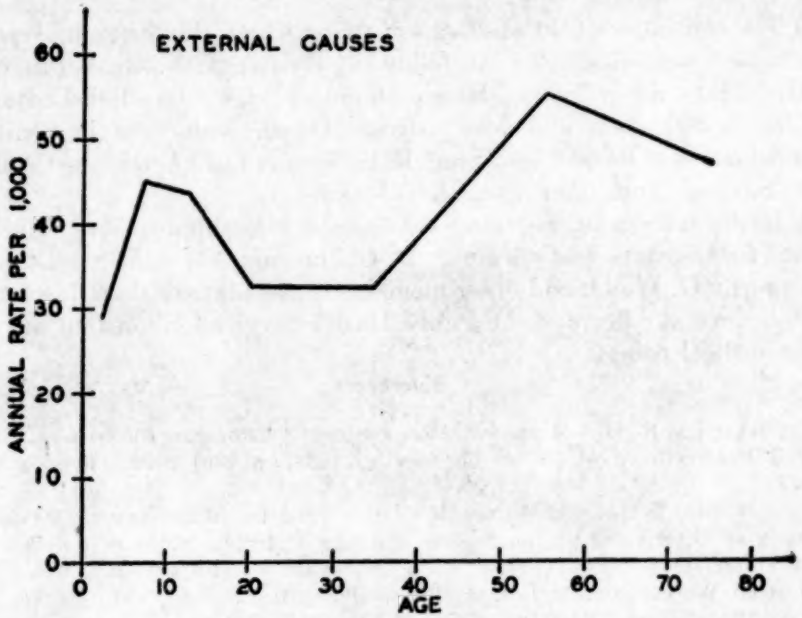

FIG. 16.—Incidence of disabilities from external causes among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

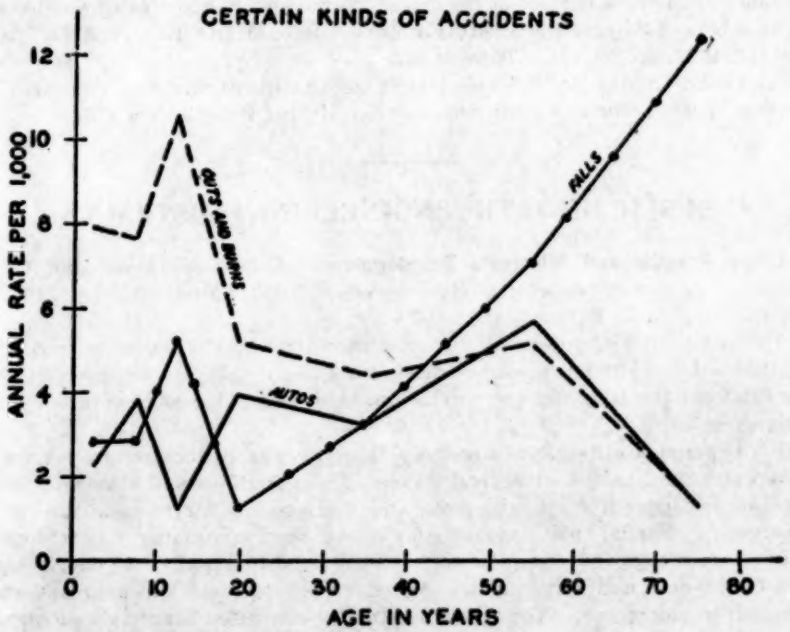

FIG. 17.—Incidence of certain kinds of accidents among persons of different ages in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924

Acknowledgments

The continuous field observations upon which the foregoing report is based were made by the following assistants: F. Ruth Phillips, Mrs. Mary King Phillips, Louise Simmons, Mrs. Clara Bell Ledford, Clarice Buhrman, and Mrs. Alcesta Owen, under the immediate supervision of Passed Asst. Surg. R. B. Norment, jr., Acting Asst. Surg. A. S. Gray, and, later, Surg. C. V. Akin.

In the analysis of the data I am especially indebted to Miss Phillips and to Associate Statistician S. D. Collins and Assistant Statistician Dorothy G. Wiehl, and other members of the statistical staff, as well as to several officers of the Public Health Service for constant advice on medical points.

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PUBLIC HEALTH ENGINEERING ABSTRACTS

Chara Fragilis and Mosquito Development. Robert Matheson and G. H. Hinman. *American Journal of Hygiene*, vol. 8, No. 2, March, 1928, pp. 279–292. (Abstract by L. L. Williams, jr.)

This article records observations made in central New York State from 1923 to 1927. Lake Dryden produced mosquitoes freely, whereas a spring-fed pool, cut off from the lake, did not produce mosquitoes. The pool contained much *Chara fragilis*.

For experimental purposes wooden pails were sunk in the ground, filled with rain water, and baited with dead leaves. *Culex territans* and *Anopheles punctipennis* laid eggs freely in the pails, and the resulting larvæ came through to emergence. Similar pails among the above, but containing *Chara fragilis*, showed some eggs and young larvæ, but none lived to pupate. In one such pail the *Chara* died and subsequently *Anopheles punctipennis* appeared and came through to emergence. The *Chara* apparently controlled breeding as long as it was alive.

Experiments were then conducted using known numbers of *Anopheles punctipennis*, *Aëdes vexans*, and *Culex pipiens* and *territans*.

Glass aquaria were stocked with earth and stream water and proved excellent rearing pools for mosquito larvæ. Similar aquaria were prepared, but with the addition of *Chara fragilis*. In the *Chara* aquaria nearly all mosquito larvæ died within two days of their introduction therein. All young larvæ died; emergences were only from the pupæ or fourth stage larvæ introduced.

At the beginning of the experiment the water was practically neutral, having a hydrogen ion concentration of pH 7. Soon after the introduction of the *Chara* it rose to pH 7.6 and fluctuated (depending on time of day) between pH 7.6 and pH 9.8. The pH value was lowest between 3 and 5 a. m., and highest between 3 and 4 p. m.

Net cages containing large numbers of larvæ of *Culex pipiens* were placed in the natural *Chara* pool. In all, about twelve hundred larvæ were so placed. Four adults emerged; all of the remaining died.

Dried *Chara fragilis*, in concentration of two to four grams per liter, had a marked effect on larval development. When young larvæ were introduced, they all died within four days. When fourth stage larvæ were introduced into the solution, a few emerged, all being undersized adults; most of them died.

If larvæ are introduced into the *Chara* pool when the pH value is at its highest, the young larvæ are almost immediately paralyzed and death is relatively quick. However, in other aquaria, if the pH value be raised high—not with *Chara*, but with *Oedogonium*—the same pH values can be obtained; but there is no effect on mosquito larvæ, all coming through to emergence. In addition, if water of high pH value be taken from the *Chara* aquaria and put in a separate jar, larvæ added thereto are not disturbed. The authors believe that there is an unstable toxic substance in *Chara*, and that the toxic action is greatest when the pH value is at its highest.

Can B. Coli be Used as an Index of the Proper Pasteurization of Milk? J. C. Swenarton. *Journal of Bacteriology* (1927), v. 13, 419–29. Abstract by W. G. Savage in *Bulletin of Hygiene*, vol. 3, No. 1, January, 1928, p. 20.

"Sixteen Pasteurizing plants were studied with respect to the *B. coli* contents of the Pasteurized milk. The Pasteurizing temperature adopted as satisfactory is 143° F. for 30 minutes with prompt cooling to 40° F. The term *B. coli* is used broadly for lactose-fermenting (with gas), nonsporing aerobes. The test was found to be very helpful in checking up the performances of the different plants.

"The author suggests the following standard: Five quantities, each of 0.1 c. c., to be examined, and of these not more than 20 per cent to show the presence of organisms of the *B. coli* group. Apparently to guard against inequalities of sampling, etc., he adds: 'Occasionally three or more of the five equal 0.1 c. c. portions constituting a single sample may show the presence of *B. coli*. This shall not be allowable if it occurs in more than (*a*) 10 per cent of the standard samples when 10 or more samples have been examined; or in (*b*) one standard sample when less than 10 samples have been examined.' This standard is a more or less arbitrary one, based on the findings from the best plants examined."

Sanitary Production of Ice Cream. R. C. Fisher. *Milk Plant Monthly*, vol 16, No. 3, March, 1927, pp. 98–104. (Abstract by Harriet S. Ryan.)

This paper, which was read at the convention of National Association of Ice Cream Manufacturers, discusses the essential factors in sanitary production of ice cream.

It is the desire of all responsible ice-cream manufacturers to make an ice cream that meets all requirements from a health and sanitary standpoint. There is, however, difference of opinion as to just what is necessary to produce a product that is safe. Some have gone to extremes in taking sanitary precautions, while others have failed to appreciate the importance of certain processes of manufacture. The bacterial content of ice cream is a more valuable measuring stick

of the Pasteurizing process and the sanitary conditions prevailing in the plant than it is in the case of milk. There is some chance for bacterial growth after milk reaches the final package, but no such conditions prevail in the manufacture of ice cream, which is kept in a frozen condition from the time it reaches the can until it is consumed.

The essentials in sanitary production, which are treated in detail in this article, may be summarized as follows: (1) Well-lighted and ventilated building; (2) simple construction of equipment for easy cleaning; (3) Pasteurizing equipment with flush and seepage-proof valves; (4) careful selection and care of ingredients; (5) Pasteurization of the entire ice-cream mix, excepting flavors and fruits, at not less than 50° F. for 30 minutes; (6) cooling and holding of milk below 40° F.; (7) thorough daily cleaning of all equipment; (8) flushing entire system with (*a*) hot water not less than 180° F., or (*b*) flush in freezers with chemical sterilizers; (9) routine bacteriological analysis of mix and ice cream, to determine the efficiency of the above processes; and (10) organization and building up of a strong working force.

Sanitary Control of the Montreal Dairy Company, Ltd. Fifth Annual Report of the Provincial Bureau of Health, Province of Quebec, Canada, 1926–1927, pp. 147–149. (Abstract by I. W. Mendelsohn.)

During the course of the typhoid fever epidemic in Montreal in the spring of 1927, the Montreal Dairy was placed under the absolute sanitary control of the Provincial Bureau of Health chemist. This control lasted from May 21 for 10 weeks, and embodied the following features: (1) Thorough disinfection of both plants of the company. The plant Pasteurizing milk and cream was disinfected twice; (2) continued and frequent examination of all employees of the plants who might come in contact with the products during or after processing or manufacture; (3) removal of all employees suspected of being infected, or who had typhoid in their families, from contact with the products of the plants; (4) maintenance of a close supervision over the raw materials entering the plants to insure that only milk or cream from sources authorized by the city food inspection division of the Montreal Department of Health enters the plants; (5) maintenance of close and constant supervision over every stage of the processing of the milk or cream, or of the manufacture of the ice cream or butter; (6) storage of butter until released upon bacteriological examination; (7) alterations and improvements effected in equipment and methods of processing better to insure the safety of the products; (8) bacteriological examination, at the plant, of the products in various stages of processing; (9) further bacteriological and chemical examinations of various products at the laboratories of the bureau.

A complete report of the epidemic is under preparation.

Refuse Collection and Disposal in Germany. Anon. *The Surveyor*, vol. 73, No. 1882, February 17, 1928, p. 237. (Abstract by H. W. Streeter.)

A review of a report by F. C. Cable, cleansing superintendent of the Westminster City Council, on his observations of methods of collecting and disposing of refuse in German towns, including Cologne, Mannheim, Frankfort, Weidenau, and Hamburg. The review deals mainly with the methods of collection observed.

At Cologne, the refuse was being disposed of by tipping on land 10 miles from the city, though a destructor, then nearing completion, was intended to burn all the refuse of the city. At this and other cities visited, the method of collection involved the use of standard dustbins, distributed to individual householders and collected, usually biweekly, by specially constructed trucks, in some cases equipped with trailers.

At Hamburg, where the Trommel-Wagen system is in operation, about 35 per cent of the refuse goes to a destructor, the remainder being tipped on land. With this system collection vehicles of a new type are used. When these wagons

arrive at the destructor, the bodies are slung off and raised up, the refuse being tipped onto the floor and eventually fed into the furnaces. The system is entirely dustless, and, as far as the design of dustbins and receiving tanks is concerned, Mr. Cable considered it the best system in operation at the time. He recommends its adoption for Westminster. In general, he considers that portions of the Continent are ahead of England so far as methods of refuse collection are concerned, but that the latter is equally ahead of the former in methods of disposal.

Garbage Collection and Disposal. R. W. Stewart. *Pacific Municipalities*, vol. 42, No. 2, February, 1928, pp. 45–48. (Abstract by F. E. DeMartini.)

Due to a lack of intelligent study of garbage handling, some cities dispose of their garbage at considerable expense. Experience of Los Angeles with chemical reduction and with disposal of garbage on a hog farm is described. A landholding company pays $0.60 per ton for garbage f. o. b. cars Los Angeles, and $1.20 per ton for hauling the garbage to farm, and is still making a profit. Chief cost of garbage collection is caused by labor and delay necessary to enter premises to obtain the garbage. Comparison of collection methods in Los Angeles has shown that for any route within cruising radius of a team, a team is more economical than a motor truck for collecting garbage. On routes with steep grades, motor trucks are preferred. Rubbish collection and disposal are related problems. The value of rubbish lies chiefly in its content of bottles and tin cans.

The Court Rules upon an Exclusive Garbage-Removal Franchise Under an Ordinance Requiring Owner to Separate Refuse and Pay for Removal.[1] Anon. *The American City*, vol. 38, No. 1, January, 1928, p. 183. (Abstract by Harriet S. Ryan.)

A case came up in the Kansas City Court of Appeals in which the plaintiffs unsuccessfully sought to restrain the defendant from removing garbage which the plaintiff had refused to remove. They attempted to justify their refusal under a provision of the ordinance that purported to excuse them from removing garbage that had not been separated, or for persons who had not paid the required fee. The court held that this provision was void. The plaintiffs assumed a right under their franchise by taking into their own hands a method of punishment, where a legal method was provided. An ordinance permitting plaintiffs to refuse to remove garbage and to permit it to remain upon premises would defeat the purpose for which the ordinance was enacted.

Water Purification. P. H. Henderson. *Journal of the Royal Sanitary Institute*, vol. 48, No. 9, March, 1928, pp. 481–483. (Abstract by W. L. Havens.)

This article contains a brief summary of the methods used by the British Army prior to and during the World War in the provision of drinking water. Army units were provided with one of more water carts, the main tank of each cart containing 110 gallons of water. The water was pumped from the source by semirotary pumps through compressed sponge, contained in cylinders, into the main tank and thence through porcelain filter candles into a smaller tank from which the water bottles were filled. It was found that the sponges did not act as efficient clarifiers, that it was impossible to ascertain whether the filter candles were free from flaws or were allowing the passage of bacteria, and that it was difficult to secure a bacterium-proof junction between the candles and the caps of the cylinder to which they were attached. During the war, Sir William Horrocks introduced the use of aluminum sulphate as a precipitant and chlorine as a sterilizing agent. This method, however, had the following objections: (1) In the absence of perfect clarification, chlorine is deviated by the organic matter and either produces unpleasant tastes or is not available to kill the microorganisms; (2) if excess chlorine is added the strong chlorine taste is extremely

[1] For fuller report of this decision see Public Health Reports, Oct. 21, 1927, p. 2603.

unpleasant; (3) if dechlorination is used, no chlorine is available in case subsequent accidental pollution takes place.

Polluted Water Causes Epidemic. Anon. *Illinois Health News*, vol. 14, No. 2, February, 1928, pp. 42–43. (Abstract by R. E. Tarbett.)

A short description of an outbreak of an intestinal disorder occurring in Marseilles, Ill. The outbreak involved 54 known cases, with an estimated number two to four times that. Epidemiological data implicated the public water supply, which is obtained from artesian wells flowing to a storage reservoir.

Samples of water collected the third morning after the outbreak started showed decided contamination in the water in the distribution system and slight contamination at the pumping station. Upon draining the reservoir, a hole in the bottom of the side wall adjoining a power race carrying polluted Illinois River water was found. This allowed race water to enter the reservoir when the water in the reservoir stood at a lower level than that in the race. An ice jam in the river just before the epidemic occurred had raised the level of the water in the race above normal and above the level of the water in the reservoir.

The Rôle of Ammonia in the Purification of Water. C. H. H. Harold. *Journal Royal Sanitary Institute*, vol. 48, No. 9, March, 1928, pp. 484–488. (Abstract by W. L. Havens.)

During the 1925 maneuvers of the British Army, Major Harold introduced a new method of purifying water. This method consisted in preliminary treatment with ammonia followed by sterilization with chlorine. In this way the absorption of chlorine is restrained and its germicidal powers are enhanced. The sterilizing agent is not unduly deviated by organic matter, and a safe water is produced, practically free from unpleasant tastes. The chlorine solution was given initial contact with the ammonia prior to dosing into water and the highest concentration which did not show evidence of available chlorine was fixed upon as the optimum. Two compounds were produced by the interaction of one equivalent of chlorine with one-half an equivalent of ammonia. In a foul water containing urine and nitrites in unreasonable amount some absorption of monochloramine was evident, but with all casual waters encountered, a dose of 1 p. p. m. has always sufficed. Dichloramine is slower in action, but possesses greater stability than monochloramine. Normally, each water cart having a capacity of 110 gallons is dosed with 1.25 grams of ammonium bicarbonate and about 3 grams by weight of dry chlorine gas.

New Waterworks at Merritton, Ontario. E. H. Darling. *Contract Record and Engineering Review*, vol. 41, No. 52, December 28, 1927, pp. 242–245. (Abstract by R. E. Thompson.)

The water supply of Merritton is obtained from a branch of the Welland Canal above Thorold at Lake Erie level. The turbidity at times is as high as 400 p. p. m. The original supply system consisted of an intake and a settling basin or reservoir of 3,000,000 gallons capacity, the water being delivered by gravity to the town 165 feet below. Owing to ice troubles, augmented by prevailing low water level, a new 18-inch intake, in 18 feet of water, and a pump were installed. When negotiations with neighboring municipalities for the construction of a joint filter plant had failed, it was decided to construct a filter plant, instructions being issued to this effect on February 1. The plant was put in operation in the open on April 23, i. e., in less than 12 weeks' time, the filter house being constructed later. The plant consists of mixing chamber providing 20 minutes' retention period, a coagulation basin providing 3⅗ hours' retention period, four pressure filters of 1½ m. g. d. total capacity, and chlorinating equipment. The total cost was $66,300, and of the filter equipment alone, $12,500. The old settling basin was converted into a filtered water reservoir.

DEATHS DURING WEEK ENDED APRIL 28, 1928

Summary of information received by telegraph from industrial insurance companies for the week ended April 28, 1928, and corresponding week of 1927. (From the Weekly Health Index, May 2, 1928, issued by the Bureau of the Census, Department of Commerce)

	Week ended Apr. 28, 1928	Corresponding week 1927
Policies in force	71,066,816	67,499,046
Number of death claims	14,249	13,807
Death claims per 1,000 policies in force, annual rate	10.5	10.7

Deaths from all causes in certain large cities of the United States during the week ended April 28, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, May 2, 1928, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Apr. 28, 1928		Annual death rate per 1,000 corresponding week 1927	Deaths under 1 year		Infant mortality rate, week ended Apr. 28, 1928 [2]
	Total deaths	Death rate [1]		Week ended Apr. 28, 1928	Corresponding week 1927	
Total (66 cities)	8,511	14.8	13.5	867	832	[2] 72
Albany [4]	46	20.0	19.6	6	2	123
Atlanta	75	15.4	15.5	5	8	
White	40		12.8	3	2	
Colored	35	[3]	21.9	2	6	
Baltimore [4]	237	14.9	14.3	22	24	70
White	182		12.7	15	15	60
Colored	55	[3]	23.4	7	9	110
Birmingham	85	20.0	15.6	13	6	111
White	36		11.4	4	5	55
Colored	49	[3]	22.2	9	1	203
Boston	258	16.9	16.2	28	26	77
Bridgeport	42			7	3	128
Buffalo	165	15.5	13.8	21	19	90
Cambridge	35	14.5	14.7	4	4	71
Camden	43	16.6	13.7	5	5	80
Canton	28	12.5	12.4	5	3	119
Chicago [4]	912	15.1	12.8	95	76	81
Cincinnati	160	20.2	17.5	22	18	133
Cleveland	202	10.5	10.3	28	27	76
Columbus	96	16.9	15.6	7	6	65
Dallas	40	9.6	9.6	1	5	
White	33		9.1	1	5	
Colored	7	[3]	13.3	0	0	
Denver	101	17.9	15.7	9	10	
Des Moines	29	10.0	14.0	1	4	17
Detroit	343	13.0	13.2	40	47	62
Duluth	35	15.7	10.0	2	3	47
El Paso	40	17.8	16.5	9	5	
Erie	31			3	5	62
Fall River [4]	29	11.3	11.0	5	5	86
Flint	33	11.6	10.6	10	5	128
Forth Worth	32	10.0	10.5	4	2	
White	26		9.1	4	2	
Colored	6	[3]	21.3	0	0	
Grand Rapids	35	11.1	7.4	3	3	45
Houston	53			10	5	
White	32			6	4	
Colored	21	[3]		4	1	
Indianapolis	106	14.5	16.0	8	14	61
White	89		16.0	5	12	44
Colored	17	[3]	16.3	3	2	182
Jersey City	111	17.9	10.1	13	8	97
Kansas City, Kans	52	23.0	12.0	5	2	106
White	34		10.8	3	2	74
Colored	18	[3]	17.2	2	0	200
Kansas City, Mo	121	16.2	14.0	5	9	35
Knoxville	34	16.9	17.9	1	6	22
White	31		18.0	1	4	24
Colored	3	[3]	17.1	0	2	0

Footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended April 28, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, May 2, 1928, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Apr. 28, 1928		Annual death rate per 1,000 corresponding week 1927	Deaths under 1 year		Infant mortality rate, week ended Apr. 28, 1928 [2]
	Total deaths	Death rate [1]		Week ended Apr. 28, 1928	Corresponding week 1927	
Los Angeles	287			27	26	77
Lowell	19	9.0	15.6	2	6	42
Lynn	32	15.9	12.9	7	6	176
Memphis	73	20.1	18.1	3	6	35
White	36		12.2	1	1	19
Colored	37	(3)	28.8	2	5	63
Milwaukee	149	14.3	12.3	21	19	94
Minneapolis	103	11.8	11.5	8	6	48
Nashville	42	15.8	18.9	6	6	94
White	24		14.2	5	3	107
Colored	18	(3)	30.8	1	3	60
New Bedford	38	16.6	14.4	6	1	130
New Haven	56	15.6	13.3	11	3	155
New Orleans	146	17.8	18.7	18	25	87
White	80		13.1	8	12	58
Colored	66	(3)	34.5	10	13	145
New York	1,764	15.3	13.1	172	154	69
Bronx borough	230	12.6	9.2	13	15	39
Brooklyn borough	590	13.4	12.0	73	66	73
Manhattan borough	695	20.7	17.8	57	65	68
Queens borough	192	11.7	8.4	23	7	93
Richmond borough	57	19.8	21.3	6	1	108
Newark, N. J	109	12.0	13.3	7	15	36
Oakland	60	11.4	9.8	7	2	76
Oklahoma City	33			2	2	
Omaha	52	12.2	14.3	3	6	35
Paterson	38	13.7	16.0	2	4	35
Philadelphia	590	14.9	14.2	65	57	88
Pittsburgh	214	16.7	14.9	28	20	92
Portland, Oreg	66			3	3	32
Providence	69	12.6	10.8	6	12	52
Richmond	53	14.3	16.3	7	4	91
White	30		13.8	4	4	81
Colored	23	(3)	22.5	3	0	110
Rochester	83	13.2	12.2	4	8	32
St. Louis	270	16.6	12.7	18	13	60
St. Paul	61	12.6	12.9	3	5	29
Salt Lake City [4]	39	14.8	15.4	4	2	65
San Antonio	81	19.4	15.0	21	17	
San Diego	37	16.2	19.9	4	0	76
San Francisco	162	14.5	15.6	7	7	44
Schenectady	27	15.1	9.5	2	1	63
Seattle	76	10.4	9.6	2	9	21
Somerville	26	13.2	11.8	4	2	138
Spokane	27	12.9	15.8	1	2	26
Springfield, Mass	29	10.1	15.6	2	4	32
Syracuse	78	20.5	11.9	9	6	109
Toledo	79	13.2	13.7	7	7	67
Trenton	33	12.4	15.6	3	7	51
Washington, D. C	159	15.1	13.6	9	18	51
White	104		12.1	5	7	41
Colored	55	(3)	18.0	4	11	74
Waterbury	27			4	2	116
Wilmington, Del	27	11.0	14.0	3	1	79
Worcester	65	17.2	13.1	5	7	61
Yonkers	25	10.8	14.0	0	2	0
Youngstown	37	11.1	12.3	3	10	40

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Data for 65 cities.
[4] Deaths for week ended Friday, Apr. 27, 1928.
[5] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended May 7, 1927, and May 5, 1928

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 7, 1927, and May 5, 1928

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928
New England States:								
Maine	7	3	6	5	116	52	0	0
New Hampshire	----	2	----	----	----	26	----	0
Vermont	----	----	----	----	215	25	0	0
Massachusetts	81	79	12	49	373	1,277	2	2
Rhode Island	3	6	----	1	2	296	0	0
Connecticut	22	23	4	85	51	370	1	2
Middle Atlantic States:								
New York	507	286	[1] 49	[1] 219	747	3,967	9	53
New Jersey	113	128	14	41	80	2,004	3	4
Pennsylvania	174	165	----	----	667	2,665	4	16
East North Central States:								
Ohio	----	67	----	115	----	930	----	9
Indiana	21	24	29	163	182	603	0	0
Illinois	112	83	56	136	1,384	244	10	17
Michigan	97	60	4	10	316	892	0	0
Wisconsin	20	23	60	1,257	605	82	2	2
West North Central States:								
Minnesota	28	12	2	77	147	93	4	7
Iowa	22	----	----	----	313	----	1	----
Missouri	49	34	----	69	273	409	1	11
North Dakota	2	----	----	259	111	21	0	1
South Dakota	6	1	2	13	103	45	0	1
Nebraska	3	9	----	42	391	55	0	1
Kansas	8	9	7	10	1,154	236	4	1
South Atlantic States:								
Delaware	1	----	----	----	11	30	0	0
Maryland [2]	42	32	27	15	28	856	0	0
District of Columbia	20	----	2	----	12	----	0	----
Virginia	----	----	----	----	----	----	----	----
West Virginia	15	18	21	92	173	72	0	0
North Carolina	18	23	----	----	1,503	1,373	0	0
South Carolina	18	5	722	469	43	322	0	0
Georgia	9	5	155	78	200	367	0	0
Florida	12	9	16	3	86	142	5	1

[1] New York City only.

[2] Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 7, 1927, and May 5, 1928—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928
East South Central States:								
Kentucky				14		268		0
Tennessee	11	8	86	256	90	228	1	0
Alabama	18	12	62	165	248	251	0	1
Mississippi	7	13					1	2
West South Central States:								
Arkansas	2	3	48	429	140	449	0	1
Louisiana	21	18	19	13	54	258	0	0
Oklahoma [1]	11	18	68	468	341	346	0	3
Texas		50		388		354		1
Mountain States:								
Montana	2	1			43	14	9	13
Idaho	5						1	2
Wyoming	2		3		111	22	0	0
Colorado	9	12			273	184	4	10
New Mexico	2	8	1	101	63	139	0	0
Arizona		7			46	9	0	3
Utah [2]	12	5		7	41	1	0	5
Pacific States:								
Washington	17	10			532	126	3	13
Oregon	14	7	20	21	341	71	2	0
California	119	95	33	34	2,009	120	3	4

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928
New England States:								
Maine	0	0	35	28	0	0	1	1
New Hampshire		0		16		0		0
Vermont	0	0	6	9	0	0	0	2
Massachusetts	2	2	469	292	0	0	7	3
Rhode Island	0	0	14	33	0	0	0	0
Connecticut	0	0	103	66	0	5	1	1
Middle Atlantic States:								
New York	2	2	1,133	638	6	2	21	11
New Jersey	0	1	372	251	0	8	6	2
Pennsylvania	0	0	500	482	0	1	15	17
East North Central States:								
Ohio		0		306		60		5
Indiana	0	0	141	101	105	123	1	5
Illinois	0	1	260	279	53	61	9	9
Michigan	0	0	293	230	56	12	5	0
Wisconsin	0	1	134	179	11	5	1	4
West North Central States:								
Minnesota	1	1	172	121	2	12	2	1
Iowa	0		36		5		1	
Missouri	2	0	77	100	24	52	10	4
North Dakota	0	0	32	30	0	3	1	0
South Dakota	0	0	27	36	1	8	0	0
Nebraska	0	0	34	118	6	41	1	1
Kansas	1	0	98	150	32	105	3	2
South Atlantic States:								
Delaware	0	0	9	0	0	0	2	1
Maryland [2]	0	0	71	70	0	0	5	4
District of Columbia	0		24		0		1	
Virginia								
West Virginia	0	0	31	27	47	28	7	2
North Carolina	0	0	25	23	69	50	9	6
South Carolina	2	0	7	6	17	6	15	11
Georgia	0	0	17	12	24	0	15	3
Florida	0	1	12	4	30	0	7	11

[1] Week ended Friday. [2] Exclusive of Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 7, 1927, and May 5, 1928—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928	Week ended May 7, 1927	Week ended May 5, 1928
East South Central States:								
Kentucky	----	0	----	55	----	3	----	6
Tennessee	0	0	28	19	16	16	17	4
Alabama	0	0	11	10	27	11	17	4
Mississippi	0	0	12	9	0	9	9	2
West South Central States:								
Arkansas	1	0	7	18	2	8	11	0
Louisiana	1	0	10	8	4	11	11	18
Oklahoma [2]	0	0	27	65	53	98	10	3
Texas	----	3	----	101	----	99	----	7
Mountain States:								
Montana	0	0	111	47	8	26	1	1
Idaho	0	0	12	7	3	11	0	0
Wyoming	0	0	19	21	2	1	0	0
Colorado	0	0	167	109	0	10	33	1
New Mexico	0	0	4	25	1	4	0	0
Arizona	1	0	11	4	0	5	1	5
Utah [2]	0	0	25	2	4	14	0	0
Pacific States:								
Washington	1	0	51	43	40	35	3	4
Oregon	0	0	19	13	17	32	4	2
California	4	11	178	153	23	22	5	8

[2] Week ended Friday. [3] Exclusive of Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
March, 1928										
California	22	454	167	4	1,001	2	15	765	98	32
District of Columbia	1	89	18	----	744	----	2	226	13	2
Idaho	10	4	5	----	2	----	1	149	41	5
Kansas	9	52	125	----	410	----	4	729	386	5
Montana	15	34	16	----	9	----	0	55	80	3
New Hampshire	0	17	42	----	----	----	0	93	----	0
North Carolina	1	237	----	----	14,823	----	0	126	477	12
Oklahoma [1]	12	99	2,140	71	1,694	18	5	241	859	29
Oregon	13	55	208	2	495	----	9	95	347	12
South Carolina	0	241	4,886	597	5,043	301	5	31	49	15
South Dakota	0	11	116	----	168	----	5	273	55	7
Virginia	4	153	3,073	65	3,753	23	3	233	39	22
Washington	21	54	44	----	1,205	----	3	195	203	21
Wisconsin	38	147	772	----	583	----	3	1,142	118	14

[1] Exclusive of Oklahoma City and Tulsa.

March, 1928	Cases
Actinomycosis:	
California	1
Chicken pox:	
California	3,402
District of Columbia	115
Idaho	83
Kansas	592
Montana	54
North Carolina	848
Oklahoma [1]	148
Oregon	238
South Carolina	427
South Dakota	90
Virginia	657
Washington	463
Wisconsin	1,306
Dengue:	
South Carolina	1

[1] Exclusive of Oklahoma City and Tulsa.

Dysentery:	Cases
California (amoebic)	1
California (bacillary)	2
Oklahoma [1]	4
Virginia	54
German measles:	
California	2,450
Kansas	53
Montana	7
North Carolina	27
Washington	44
Hookworm disease:	
California	1
South Carolina	131
Virginia	22
Impetigo contagiosa:	
Oregon	10
Washington	18
Jaundice:	
California	2
Leprosy:	
California	1
Lethargic encephalitis:	
California	7
Kansas	1
Oregon	2
Washington	1
Wisconsin	4
Mumps:	
California	1,530
Idaho	100
Kansas	649
Montana	1
Oklahoma [1]	168
Oregon	96
South Carolina	79
South Dakota	57
Washington	449
Wisconsin	1,413
Ophthalmia neonatorum:	
Oklahoma [1]	1
South Carolina	18
Paratyphoid fever:	
California	4
Idaho	1
South Carolina	4
Pink eye:	
Kansas	7
Oklahoma [1]	2

[1] Exclusive of Oklahoma City and Tulsa.

Puerperal septicemia:	Cases
Oregon	1
Rabies in animals:	
California	48
Idaho	2
South Carolina	24
Rocky Mountain spotted or tick fever:	
Montana	1
Oregon	1
Septic sore throat:	
North Carolina	11
Oklahoma [1]	10
Oregon	16
Scabies:	
Oregon	13
Washington	24
Tetanus:	
California	4
Kansas	2
Trachoma:	
California	13
Oklahoma [1]	9
South Dakota	2
Trichinosis:	
California	10
Tularaemia:	
Idaho	1
South Carolina	1
Undulant (malta) fever:	
Kansas	1
Vincent's angina:	
South Carolina	18
Whooping cough:	
California	772
District of Columbia	43
Idaho	7
Kansas	340
Montana	56
North Carolina	661
Oklahoma [1]	61
Oregon	6
South Carolina	463
South Dakota	55
Virginia	590
Washington	53
Wisconsin	495

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 100 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,575,000. The estimated population of the 95 cities reporting deaths is more than 30,960,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended April 21, 1928, and April 23, 1927

	1928	1927	Estimated expectancy
Cases reported			
Diphtheria:			
43 States	1,431	1,776	
100 cities	829	1,065	859
Measles:			
42 States	18,550	14,628	
100 cities	8,244	4,638	
Poliomyelitis:			
44 States	19	8	
Scarlet fever:			
43 States	3,936	4,671	
100 cities	1,598	2,154	1,271
Smallpox:			
43 States	1,067	790	
100 cities	135	195	119
Typhoid fever:			
43 States	167	239	
100 cities	38	43	40
Deaths reported			
Influenza and pneumonia:			
95 cities	1,333	1,031	
Smallpox:			
95 cities	1	0	
Louisville, Ky	1	0	

City reports for week ended April 21, 1928

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible but no year earlier than 1919 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population, July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	76,400	5	1	0	1	0	3	11	3
New Hampshire:									
Concord	[1] 22,546	0	0	1	0	0	1	0	3
Manchester	84,000	0	2	1	0	0	0	0	5
Vermont:									
Barre	[1] 10,008	9	0	1	0	0	0	0	0
Burlington	[1] 24,089	0	0	1	0	0	3	0	2
Massachusetts									
Boston	787,000	33	34	25	2	1	260	8	14
Fall River	131,000	2	3	1	0	0	1	0	1
Springfield	145,000	5	2	7	0	0	2	40	1
Worcester	193,000	3	4	4	0	0	58	41	7
Rhode Island:									
Pawtucket	71,000	0	1	3	0	0	19	29	7
Providence	275,000	0	8	5	0	1	264	0	6
Connecticut:									
Bridgeport	[2]	1	5	3	1	1	5	0	5
Hartford	164,000	7	5	5	0	0	30	11	8
New Haven	182,000	21	3	2	0	0	115	56	17

[1] Estimated, July 1, 1925.

[2] No estimate made.

City reports for week ended April 21, 1928—Continued

Division, State, and city	Population, July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MIDDLE ATLANTIC									
New York:									
Buffalo	544,000	28	8	21	-------	0	72	49	13
New York	5,924,000	211	246	277	94	35	1,992	30	333
Rochester	321,000	7	9	2	1	0	26	30	6
Syracuse	185,000	21	5	4	-------	0	161	9	15
New Jersey:									
Camden	131,000	0	5	8	0	0	45	4	2
Newark	459,000	17	11	19	12	0	380	20	17
Trenton	134,000	1	3	11	0	0	4	2	4
Pennsylvania:									
Philadelphia	2,008,000	73	69	60	0	12	910	69	69
Pittsburgh	637,000	37	17	16	0	5	143	38	37
Reading	114,000	10	2	-------	0	2	10	0	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	411,000	7	7	10	0	3	79	0	12
Cleveland	900,000	47	23	36	34	3	35	101	24
Columbus	285,000	12	4	1	1	0	90	3	5
Toledo	295,000	12	3	3	8	7	140	22	5
Indiana:									
Fort Wayne	99,900	3	2	4	0	0	0	0	4
Indianapolis	367,000	27	4	6	0	1	87	112	16
South Bend	81,700	2	1	0	0	0	1	0	1
Terre Haute	71,900	2	0	1	0	1	1	0	11
Illinois:									
Chicago	3,048,000	77	72	77	46	20	37	31	100
Springfield	64,700	5	1	0	2	0	0	13	1
Michigan:									
Detroit	1,290,000	48	48	28	10	7	786	25	77
Flint	136,000	15	3	4	0	2	113	54	4
Grand Rapids	156,000	1	4	2	0	3	13	8	3
Wisconsin:									
Kenosha	52,700	17	1	0	2	0	2	0	1
Milwaukee	517,000	71	13	8	43	3	4	39	20
Racine	69,400	5	2	1	0	0	1	2	2
Superior	[1] 39,671	0	0	0	0	0	0	0	3
WEST NORTH CENTRAL									
Minnesota:									
Duluth	113,000	6	1	0	18	4	1	2	3
Minneapolis	434,000	56	14	10	0	11	83	205	15
St. Paul	248,000	20	12	2	0	0	3	36	13
Iowa:									
Davenport	[1] 52,469	1	1	0	0	-------	0	0	-------
Des Moines	146,000	0	2	1	0	-------	0	0	-------
Sioux City	78,000	-------	1	-------	-------	-------	-------	-------	-------
Waterloo	36,900	11	0	0	0	-------	3	4	-------
Missouri:									
Kansas City	375,000	13	5	0	0	1	51	79	12
St. Joseph	78,400	1	1	0	0	0	0	11	8
St. Louis	830,000	12	39	27	2	1	351	15	-------
North Dakota:									
Fargo	[1] 26,403	1	0	0	0	0	0	1	2
Grand Forks	[1] 14,811	2	0	0	0	-------	0	0	-------
South Dakota:									
Aberdeen	[1] 15,036	6	0	0	0	-------	1	0	-------
Sioux Falls	[1] 30,127	6	0	1	0	-------	0	0	-------
Nebraska:									
Lincoln	62,000	4	1	2	0	0	0	22	0
Omaha	216,000	8	2	1	0	0	2	1	14
Kansas:									
Topeka	56,500	22	1	0	0	3	1	4	3
Wichita	92,500	18	1	1	0	0	11	0	6

[1] Estimated July 1, 1925.

City reports for week ended April 21, 1928—Continued

Division, State, and city	Population, July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
SOUTH ATLANTIC									
Delaware:									
Wilmington	124,000	1	2	1	0	0	9	2	3
Maryland:									
Baltimore	808,000	90	25	21	10	1	738	35	41
Cumberland	[1] 33,741	2	0	1	1	0	0	0	0
Frederick	[1] 12,035	0	0	1	0	0	30	0	0
District of Columbia:									
Washington	528,000	12	12	11	3	2	190	0	21
Virginia:									
Lynchburg	30,500	3	1	2	0	0	39	1	4
Norfolk	174,000	10	1	1	0	0	62	6	3
Richmond	189,000	13	1	1	0	0	135	3	4
Roanoke	61,900	7	0	0	0	0	18	1	1
West Virginia:									
Charleston	50,700	3	1	1	0	0	0	0	1
Wheeling	[1] 56,208	10	1	0	0	0	6	0	3
North Carolina:									
Raleigh	[1] 30,371	1	0	2	0	1	49	0	1
Wilmington	37,700	0	0	0	0	1	1	0	6
Winston-Salem	71,800	10	0	1	0	0	24	18	0
South Carolina:									
Charleston	74,100	1	0	0	14	0	0	0	2
Columbia	41,800	9	0	0	0	0	2	16	0
Greenville	[1] 27,311	0	1	0	0	0	0	1	2
Georgia:									
Atlanta	(2)	13	1	4	17	4	21	7	6
Brunswick	[1] 16,800	0	0	0	0	0	10	0	0
Savannah	94,900	1	0	0	3	0	2	1	3
Florida:									
Miami	[1] 69,754	14	1	2	4	0	6	19	2
St. Petersburg	[1] 26,847		0			0			1
Tampa	102,000	3	1	0	0	0	9	6	2
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,500	1	1	1	0	0	2	0	10
Louisville	311,000	1	3	1	2	1	97	3	14
Tennessee:									
Memphis	177,000	18	3	1	0	5	42	26	10
Nashville	137,000	4	0	1	0	3	41	8	3
Alabama:									
Birmingham	211,000	13	1	2	50	3	119	7	7
Mobile	66,800	0	0	1	1	1	1	0	1
Montgomery	47,000	5	0	1	3		6	0	
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	[1] 31,643	2	1	0	0		0	1	
Little Rock	75,900	3	1	2	0	0	6	2	5
Louisiana:									
New Orleans	419,000	5	7	16	6	4	1	0	17
Shreveport	59,500	0	1	0	0	0	29	0	4
Oklahoma:									
Oklahoma City	(2)	6	1	0	19	2	14	4	5
Tulsa	133,000	14	1	0	0		4	18	
Texas:									
Dallas	203,000	14	4	6	2	2	4	0	5
Fort Worth	159,000	7	1	5	1	0	9	3	4
Galveston	49,100	0	0	1	0	0	3	0	2
Houston	[1] 164,954	0	2	2	0	0	40	0	5
San Antonio	205,000	0	1	4	0	5	12	1	10
MOUNTAIN									
Montana:									
Billings	[1] 17,971	0	0	0	0	0	0	0	0
Great Falls	[1] 29,883	10	1	0	0	0	2	0	0
Helena	[1] 12,037	0	0	0	0	0	0	0	0
Missoula	[1] 12,668	0	1	0	0	0	0	0	2

[1] Estimated July 1, 1925.

[2] No estimate made.

City reports for week ended April 21, 1928—Continued

Division, State, and city	Population, July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MOUNTAIN—continued									
Idaho:									
Boise	[1] 23,042	0	0	0	0	0	0	1	0
Colorado:									
Denver	285,000	66	10	5	----	6	74	121	4
Pueblo	43,900	20	1	1	0	0	9	0	3
New Mexico:									
Albuquerque	[1] 21,000	12	1	0	0	0	20	1	0
Utah:									
Salt Lake City	133,000	16	3	3	0	0	1	0	3
Nevada:									
Reno	[1] 12,665	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	(2)	35	4	1	0	----	82	8	----
Spokane	109,000	0	2	2	0	----	0	0	----
Tacoma	106,000	10	1	3	0	0	4	70	2
Oregon:									
Portland	282,383	25	2	7	0	0	19	5	7
California:									
Los Angeles	(2)	90	40	28	18	1	36	56	20
Sacramento	73,400	1	2	0	3	3	2	5	2
San Francisco	567,000	80	20	6	2	0	30	60	6

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	3	4	0	0	0	1	0	1	0	9	25
New Hampshire:											
Concord	0	0	0	0	0	3	0	0	0	0	13
Manchester	3	5	0	0	0	3	0	0	0	0	33
Vermont:											
Barre	0	1	0	0	0	0	0	0	0	0	2
Burlington	1	0	0	0	0	0	0	0	0	0	10
Massachusetts:											
Boston	66	47	0	0	0	9	1	0	0	37	258
Fall River	3	8	0	0	0	3	1	1	0	0	24
Springfield	5	12	0	0	0	0	0	0	0	7	35
Worcester	9	4	0	0	0	3	0	0	0	9	76
Rhode Island:											
Pawtucket	1	1	0	0	0	3	0	0	0	1	24
Providence	8	30	0	0	0	1	0	0	0	2	78
Connecticut:											
Bridgeport	17	1	0	0	0	1	0	0	0	11	33
Hartford	4	6	0	0	0	1	0	1	0	3	44
New Haven	9	1	0	0	0	2	0	0	0	26	73
MIDDLE ATLANTIC											
New York:											
Buffalo	22	30	0	0	0	8	0	0	0	23	141
New York	270	345	0	0	0	130	9	9	1	148	1,856
Rochester	15	10	0	0	0	4	1	0	0	7	91
Syracuse	11	12	0	0	0	2	1	0	0	22	73
New Jersey:											
Camden	7	4	0	0	0	1	0	0	0	4	24
Newark	29	29	0	1	0	13	1	1	0	24	143
Trenton	4	2	1	0	0	0	0	1	0	0	30

[1] Estimated, July 1, 1925.

[2] No estimate made.

City reports for week ended April 21, 1928—Continued.

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MIDDLE ATLANTIC—continued											
Pennsylvania:											
Philadelphia	96	109	0	0	0	43	3	2	1	91	609
Pittsburgh	28	24	0	0	0	9	1	0	0	34	213
Reading	3	24	0	0	0	0	0	0	0	2	24
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	22	29	2	0	0	13	1	0	0	7	149
Cleveland	36	23	0	0	0	16	0	0	0	55	214
Columbus	9	13	1	0	0	6	0	1	0	1	83
Toledo	14	3	3	0	0	2	1	0	0	17	71
Indiana:											
Fort Wayne	5	0	3	5	0	1	0	0	0	0	31
Indianapolis	9	7	9	9	0	9	0	1	0	7	94
South Bend	4	0	0	1	0	0	0	0	0	1	12
Terre Haute	2	0	0	4	0	2	0	0	0	1	29
Illinois:											
Chicago	115	120	2	1	0	67	2	1	0	102	854
Springfield	2	17	1	13	0	0	1	0	0	1	17
Michigan:											
Detroit	87	128	2	2	0	24	2	1	0	87	373
Flint	6	19	1	11	0	0	0	0	0	4	27
Grand Rapids	7	3	2	0	0	1	0	0	0	3	50
Wisconsin:											
Kenosha	2	2	1	1	0	0	0	0	0	0	4
Milwaukee	27	40	2	1	0	6	1	1	1	14	148
Racine	4	1	1	0	0	0	1	0	0	5	16
Superior	2	13	1	0	0	1	0	0	0	0	10
WEST NORTH CENTRAL											
Minnesota:											
Duluth	7	6	0	0	0	4	0	0	0	2	27
Minneapolis	48	39	6	0	0	4	1	0	0	7	132
St. Paul	27	19	3	0	0	3	1	0	0	27	71
Iowa:											
Davenport	2	4	4	0	------	------	0	0	------	0	------
Des Moines	6	9	1	10	------	------	0	0	------	0	------
Sioux City	2	------	2	------	------	------	0	------	------	------	------
Waterloo	1	2	0	0	------	------	0	0	------	0	------
Missouri:											
Kansas City	12	37	2	3	0	11	0	0	0	14	113
St. Joseph	3	0	0	1	0	4	0	0	0	0	31
St. Louis	36	24	4	3	0	15	1	3	0	32	234
North Dakota:											
Fargo	2	6	0	0	0	1	0	0	1	6	9
Grand Forks	0	2	0	0	------	------	0	0	------	0	------
South Dakota:											
Aberdeen	2	2	0	0	------	------	0	0	------	1	------
Sioux Falls	1	1	0	0	------	------	0	0	------	0	------
Nebraska:											
Lincoln	0	3	0	3	0	0	0	0	0	4	14
Omaha	2	8	9	4	0	2	0	0	0	2	63
Kansas:											
Topeka	3	5	1	12	0	2	0	0	0	10	19
Wichita	3	2	1	8	0	0	0	0	0	8	25
SOUTH ATLANTIC											
Delaware:											
Wilmington	5	1	0	0	0	0	0	1	0	3	28
Maryland:											
Baltimore	34	30	0	0	0	20	2	2	0	64	258
Cumberland	1	0	0	0	0	0	0	0	0	0	14
Frederick	0	0	0	0	0	0	0	0	0	0	5
District of Columbia:											
Washington	23	30	1	0	0	14	1	1	0	6	154

City reports for week ended April 21, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
SOUTH ATLANTIC—continued											
Virginia:											
Lynchburg	1	0	0	0	0	1	0	0	0	11	18
Norfolk	3	7	1	1	0	0	0	0	0	0	0
Richmond	2	5	1	0	0	10	0	0	0	0	63
Roanoke	1	0	0	0	0	0	0	0	0	0	14
West Virginia:											
Charleston	0	2	1	0	0	3	0	0	0	0	17
Wheeling	1	3	0	0	0	0	1	0	0	0	15
North Carolina:											
Raleigh	0	0	0	0	0	1	0	0	0	7	18
Wilmington	0	1	0	1	0	0	0	0	0	5	19
Winston-Salem	1	1	5	0	0	1	0	0	0	0	19
South Carolina:											
Charleston	0	0	1	1	0	2	0	0	0	1	21
Columbia	0	1	1	0	0	1	0	0	0	2	4
Greenville	1	2	1	0	0	2	0	0	0	1	13
Georgia:											
Atlanta	4	14	5	2	0	4	0	1	0	1	83
Brunswick	0	0	0	0	0	0	1	0	0	0	4
Savannah	0	0	1	2	0	2	1	0	0	0	19
Florida:											
Miami	1	2	2	0	0	0	1	1	0	3	26
St. Petersburg	0	----	0	----	0	0	0	----	0	----	12
Tampa	1	0	1	0	0	5	0	0	0	0	33
EAST SOUTH CENTRAL											
Kentucky:											
Covington	2	5	0	1	0	4	1	0	0	1	36
Louisville	8	24	1	1	1	2	1	0	0	1	68
Tennessee:											
Memphis	5	6	3	0	0	8	0	0	0	1	91
Nashville	2	0	0	0	0	8	0	1	0	2	75
Alabama:											
Birmingham	1	2	7	1	0	4	1	2	0	9	69
Mobile	0	3	1	1	0	2	0	0	0	0	27
Montgomery	0	0	1	0	----	----	1	0	----	0	----
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	0	0	0	----	----	0	0	----	0	----
Little Rock	0	14	1	0	0	5	0	0	0	0	0
Louisiana:											
New Orleans	5	4	1	0	0	11	2	3	1	4	162
Shreveport	1	0	1	0	0	2	0	0	1	0	34
Oklahoma:											
Oklahoma City	1	8	3	12	0	2	0	0	0	0	34
Tulsa	2	13	1	7	----	----	0	0	----	4	----
Texas:											
Dallas	2	19	3	1	0	4	1	0	0	17	51
Fort Worth	1	13	4	10	0	0	0	0	0	0	38
Galveston	1	0	0	0	0	1	1	1	1	0	23
Houston	0	3	1	0	0	3	0	0	0	0	71
San Antonio	0	1	0	1	0	13	0	1	0	0	80
MOUNTAIN											
Montana:											
Billings	1	0	0	0	0	0	0	0	0	3	5
Great Falls	2	0	1	6	0	0	0	0	0	0	7
Helena	0	4	0	1	0	0	0	0	0	0	10
Missoula	1	2	1	0	0	0	0	0	0	0	6
Idaho:											
Boise	2	2	1	0	0	0	1	0	0	0	5
Colorado:											
Denver	10	9	1	1	0	6	0	0	0	39	83
Pueblo	2	5	1	0	0	0	0	0	0	0	11
New Mexico:											
Albuquerque	0	2	0	0	0	8	0	1	0	0	18

City reports for week ended April 21, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MOUNTAIN—con.											
Utah:											
Salt Lake City	1	2	1	10	0	1	1	0	0	9	39
Nevada:											
Reno	0	0	0	1	0	0	0	0	0	0	4
PACIFIC											
Washington:											
Seattle	8	2	2	1			1	0		4	
Spokane	4	7	5	20			0	0		0	
Tacoma	2	0	4	2	0	1	0	0	0	1	26
Oregon:											
Portland	8	2	6	34	0	1	0	0	0	0	69
California:											
Los Angeles	22	28	5	0	0	26	1	1	0	45	270
Sacramento	1	1	0	0	0	3	1	0	0	1	28
San Francisco	16	21	2	0	0	12	1	0	1	21	144

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston	0	0	2	1	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York	35	18	5	3	0	0	1	0	1
Rochester	0	0	1	0	0	0	0	0	0
New Jersey:									
Newark	1	2	0	0	0	0	0	0	0
Pennsylvania:									
Philadelphia	2	1	0	0	0	0	0	0	0
Pittsburgh	2	2	0	1	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cleveland	4	1	0	0	0	0	0	0	0
Columbus	0	0	1	1	0	0	0	0	0
Indiana:									
Indianapolis	0	1	0	0	0	0	0	0	0
South Bend	0	1	0	0	0	0	0	0	0
Illinois:									
Chicago	9	3	0	0	0	0	0	0	0
Michigan:									
Detroit	0	2	0	1	0	0	0	1	0
Wisconsin:									
Milwaukee	4	2	1	0	0	0	0	0	0
Superior	2	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	1	0	0	0	0	0	0	0	0
Missouri:									
Kansas City	5	2	0	0	0	0	0	0	0
St. Louis	3	0	0	0	0	0	0	0	0

City reports for week ended April 21, 1928—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
SOUTH ATLANTIC									
Maryland:									
Baltimore	1	0	0	1	0	0	0	0	0
North Carolina:									
Raleigh	0	0	0	0	0	1	0	0	0
Wilmington	0	0	0	0	0	1	0	0	0
South Carolina:									
Charleston	0	0	0	0	1	1	0	0	0
Greenville	0	0	0	0	0	1	0	0	0
Georgia:									
Savannah	0	0	0	0	1	1	0	0	0
Florida:									
Miami	0	0	0	0	2	0	0	0	0
Tampa	0	0	0	0	0	1	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Nashville	0	0	1	0	1	1	0	0	0
Alabama:									
Birmingham	2	2	0	0	0	0	0	0	0
Mobile	0	0	0	1	2	0	0	0	0
Montgomery	0	0	0	0	2	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans	1	0	0	0	0	0	0	0	0
Oklahoma:									
Oklahoma City	0	1	0	0	1	0	0	0	0
Texas:									
Dallas	0	0	0	0	1	0	0	0	0
Houston	0	1	0	1	0	0	0	1	1
MOUNTAIN									
Colorado:									
Denver	2	0	0	1	0	0	0	0	0
Utah:									
Salt Lake City	1	0	0	0	0	0	0	0	0
Washington:									
Seattle	1	0	0	0	0	0	0	1	0
Tacoma	0	0	0	0	0	0	0	1	0
Oregon:									
Portland	0	0	0	2	0	0	0	0	0
California:									
Los Angeles	3	1	1	1	0	0	1	0	0
Sacramento	0	1	0	0	0	0	0	0	0

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended April 21, 1928, compared with those for a like period ended April 23, 1927. The population figures used in computing the rates are approximate estimates as of July 1, 1927 and 1928, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,050,000 in 1927 and 31,657,000 in 1928. The 95 cities reporting deaths had nearly 30,370,000 estimated population in 1927 and nearly 30,961,000 in 1928. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, March 18 to April 21, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Mar. 26, 1927	Mar. 24, 1928	Apr. 2, 1927	Mar. 31, 1928	Apr. 9, 1927	Apr. 7, 1928	Apr. 16, 1927	Apr. 14, 1928	Apr. 23, 1927	Apr. 21, 1928
101 cities	178	158	190	139	200	132	174	144	179	[2] 137
New England	130	124	137	110	181	126	105	168	135	131
Middle Atlantic	226	222	263	181	269	188	271	209	270	204
East North Central	178	148	159	146	169	121	135	116	131	116
West North Central	121	132	158	84	170	101	109	101	141	[2] 82
South Atlantic	146	112	157	121	117	88	141	82	135	82
East South Central	41	60	61	85	66	25	86	40	30	40
West South Central	174	116	178	108	335	132	141	160	124	124
Mountain	81	80	108	115	170	44	108	133	188	80
Pacific	193	105	170	74	125	77	115	74	157	102

MEASLES CASE RATES

101 cities	943	1,326	837	1,388	867	1,277	766	1,340	788	[2] 1,365
New England	198	1,536	205	2,014	270	1,874	223	1,726	295	1,743
Middle Atlantic	114	1,393	127	1,491	159	1,504	172	1,739	145	1,824
East North Central	1,138	1,009	925	1,023	957	1,034	885	998	797	817
West North Central	1,514	725	1,821	748	1,300	762	1,314	861	1,552	[2] 1,016
South Atlantic	972	2,893	1,091	2,905	936	2,285	1,311	2,115	1,589	2,358
East South Central	436	1,426	284	1,696	608	958	396	1,117	517	1,536
West South Central	1,754	1,120	935	836	2,114	436	1,005	428	1,249	380
Mountain	5,074	504	3,443	752	2,788	708	2,080	743	1,793	761
Pacific	3,163	807	2,761	580	3,051	447	2,207	524	2,103	393

SCARLET FEVER CASE RATES

101 cities	423	309	440	303	394	273	391	226	362	[2] 265
New England	479	411	530	405	367	331	423	301	346	264
Middle Atlantic	580	374	612	398	594	366	581	273	528	287
East North Central	347	306	329	266	272	252	285	194	298	272
West North Central	400	292	467	257	433	263	396	277	342	[2] 297
South Atlantic	179	224	197	221	177	179	150	154	161	170
East South Central	162	234	172	204	177	100	218	234	167	200
West South Central	58	124	54	144	99	148	50	123	41	164
Mountain	1,130	177	1,210	186	941	239	950	239	932	212
Pacific	360	202	340	207	243	133	243	123	209	151

SMALLPOX CASE RATES

101 cities	30	25	28	25	26	18	24	20	33	[2] 22
New England	0	0	2	0	0	0	0	0	0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	29	18	33	24	37	24	32	24	29	31
West North Central	69	125	30	64	42	84	55	49	40	[2] 62
South Atlantic	41	23	61	68	25	14	27	11	65	12
East South Central	106	25	122	30	86	10	96	35	102	20
West South Central	74	36	62	36	103	4	87	16	95	8
Mountain	18	62	9	142	27	106	27	150	54	168
Pacific	99	61	68	23	55	18	26	74	97	59

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1927 and 1928, respectively.
[2] Sioux City, Iowa, not included.

Summary of weekly reports from cities, March 18 to April 21, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	Mar. 26, 1927	Mar. 24, 1928	Apr. 2, 1927	Mar. 31, 1928	Apr. 9, 1927	Apr. 7, 1928	Apr. 16, 1927	Apr. 14, 1928	Apr. 23, 1927	Apr. 21, 1928
101 cities	8	4	8	5	8	4	8	5	7	[1] 6
New England	5	9	12	5	7	2	9	9	0	7
Middle Atlantic	7	4	6	4	6	1	5	5	7	6
East North Central	4	3	1	2	5	3	1	1	3	3
West North Central	4	0	2	2	2	6	12	8	4	[1] 6
South Atlantic	13	11	16	21	9	12	13	4	11	9
East South Central	41	5	20	10	35	15	35	20	30	15
West South Central	29	8	25	12	37	16	17	20	12	20
Mountain	0	0	0	0	0	0	9	0	27	0
Pacific	10	5	24	3	8	8	18	3	10	3

INFLUENZA DEATH RATES

95 cities	27	32	22	29	23	34	21	30	18	28
New England	7	9	12	11	7	16	16	9	12	7
Middle Atlantic	26	22	21	29	26	31	21	27	20	26
East North Central	16	35	15	24	9	40	11	27	11	28
West North Central	14	16	4	18	17	16	12	24	21	41
South Atlantic	65	39	38	21	40	19	38	30	22	16
East South Central	96	89	106	78	74	73	90	84	58	68
West South Central	25	98	30	86	51	107	42	90	30	45
Mountain	27	133	27	53	36	80	18	53	0	53
Pacific	28	7	24	14	17	7	14	14	10	14

PNEUMONIA DEATH RATES

95 cities	167	213	163	222	162	215	153	207	159	198
New England	156	182	156	225	140	179	156	177	151	166
Middle Atlantic	198	245	186	264	198	244	175	243	199	242
East North Central	141	211	147	207	131	241	141	199	135	192
West North Central	101	118	93	130	137	122	128	175	124	155
South Atlantic	218	240	225	230	150	179	184	209	179	181
East South Central	197	240	133	288	218	397	138	183	160	235
West South Central	136	275	161	242	140	185	76	238	81	197
Mountain	170	168	161	106	242	97	152	186	161	106
Pacific	110	101	128	118	117	105	117	88	97	81

[1] Sioux City, Iowa, not included.

Number of cities included in summary of weekly reports, and aggregate population of cities in each group, approximated as of July 1, 1927 and 1928, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1927	1928	1927	1928
Total	101	95	31,050,300	31,657,000	30,369,500	30,960,700
New England	12	12	2,242,700	2,274,400	2,242,700	2,274,400
Middle Atlantic	10	10	10,594,700	10,732,400	10,594,700	10,732,400
East North Central	16	16	7,820,700	7,991,400	7,820,700	7,991,400
West North Central	12	10	2,634,500	2,683,500	2,518,500	2,566,400
South Atlantic	21	21	2,890,700	2,981,900	2,890,700	2,981,900
East South Central	7	6	1,028,300	1,048,300	980,700	1,000,100
West South Central	8	7	1,290,700	1,307,600	1,227,800	1,274,100
Mountain	9	9	581,600	591,100	581,600	591,100
Pacific	6	4	1,996,400	2,046,400	1,512,100	1,548,900

FOREIGN AND INSULAR

THE FAR EAST

Report for the week ended April 7, 1928.—The following report for the week ended April 7, 1928, was transmitted by the eastern bureau of the health section of the secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva:

Plague, cholera, or smallpox was reported present in the following ports:

PLAGUE

Egypt.—Suez.
Aden Protectorate.—Aden.
India.—Bassein, Bombay, Calcutta, Rangoon.

CHOLERA

India.—Bassein, Calcutta, Madras, Rangoon, Tuticorin.
French India.—Pondicherry.
Siam.—Bangkok.
French Indo-China.—Saigon.

SMALLPOX

India.—Bombay, Calcutta, Madras, Moulmein, Rangoon.
French India.—Pondicherry.
China.—Shanghai, Hong Kong.
Japan.—Shimonoseki.
Kwantung.—Dairen.

Returns for the week ended April 7 were not received from the following ports:

Ceylon.—Colombo.
China.—Canton.
Dutch East Indies.—Banjermasin, Belawan-Deli, Menado, Samarinda.
Iraq.—Basra.
Union of Soviet Socialist Republics.—Vladivostok.

ANGOLA

Communicable diseases—December, 1927—January, 1928.—During December, 1927, and January, 1928, communicable diseases were reported in Angola as follows:

Disease	December, 1927				January, 1928			
	Coast district	Land frontier	Interior	Total	Coast district	Land frontier	Interior	Total
Ancylostomiasis	5	5	7	17	10	17	----	27
Beriberi	6	4	----	10	2	----	----	2
Bilharzia	5	----	6	11	2	5	31	38
Chicken pox [1]	19	----	4	23	13	1	1	15
Dysentery	36	20	12	68	27	21	9	57
Erysipelas	2	----	----	2	----	----	----	----
Hemoglobin fever	11	2	9	22	10	2	5	17
Influenza	58	189	98	345	44	353	69	466
Leprosy	4	1	----	5	----	----	----	----
Malaria	353	167	165	685	359	212	104	675
Measles	116	----	4	120	60	6	4	70
Meningitis	----	----	14	14	----	1	----	1
Mumps	4	1	----	5	2	----	----	2
Plague	3	----	----	3	----	----	----	----
Puerperal septicemia	1	----	----	1	1	1	----	2
Pneumonia	11	3	15	29	25	12	7	44
Relapsing fever	----	4	----	4	----	14	----	14
Ringworm	----	----	----	----	----	4	----	4
Scabies	9	75	----	84	6	50	----	56
Smallpox	7	----	----	7	10	----	----	10
Tetanus	1	----	----	1	3	----	----	3
Tuberculosis	39	3	3	45	27	4	3	34
Typhoid fever	1	2	1	4	2	----	----	2
Trypanosomiasis	57	27	38	122	74	70	7	151
Venereal diseases	152	216	16	384	178	237	27	442
Whooping cough	7	----	----	7	----	----	2	2
Yaws	89	33	69	191	82	19	5	106

[1] Including alastrim.

ARABIA

Aden—Plague.—Under date of April 1, 1928, continued prevalence of plague was reported at Aden, with a total of 1,170 cases and 830 deaths from the outbreak of the epidemic. It was stated that the epidemic had spread to a point 25 miles north of Aden.

CANADA

Fort William, Ontario—Vital statistics and communicable diseases, 1927.—The annual report of the department of health of the city of Fort William, Ontario, Canada, for the year ended October 31, 1927, gives the following statistics:

Population (estimated)	23,544	Death rate per 1,000 births	54.63
Births	604	Deaths (all causes)	[1] 196
Stillbirths	25	Death rate per 1,000 population	[1] 8.32
Deaths under 1 year	33		

[1] Including nonresidents.

Communicable diseases—Cases and deaths at Fort William, Ontario, Canada, year ended October 31, 1927

Disease	Cases	Deaths	Disease	Cases	Deaths
Broncho-pneumonia	8	6	Pneumonia (lobar)		15
Chicken pox	66		Poliomyelitis	1	
Diphtheria	27	2	Scarlet fever	32	
Erysipelas	3		Smallpox	0	
Gonorrhea	51		Syphilis	22	
Influenza	3	1	Tuberculosis	24	12
Measles	32	1	Typhoid fever	10	
Mumps	5		Whooping cough	69	3

Quebec Province—Communicable diseases—Week ended April 21, 1928.—The Bureau of Health of the Province of Quebec reports cases of communicable diseases for the week ended April 21, 1928, as follows:

Disease	Cases	Disease	Cases
Chicken pox	67	Scarlet fever	95
Diphtheria	36	Smallpox	25
German measles	12	Tuberculosis	51
Influenza	6	Typhoid fever	15
Measles	302	Whooping cough	12

ITALY

Messina—Vital statistics—Year 1927.—The following table gives vital statistics for the city of Messina, Italy, for the year 1927:

Population	197,866	Deaths from—Continued.	
Births	4,843	Influenza	33
Still-born	125	Measles	1
Deaths	3,049	Smallpox	1
Deaths from—		Tuberculosis	102
Cerebrospinal meningitis	14	Typhoid fever	27
Diphtheria	19		

MALTA

Communicable diseases—March, 1928.—During the month of March, 1928, communicable diseases were reported in the Island of Malta, as follows:

Disease	Cases	Disease	Cases
Bronchopneumonia	19	Pneumonia	8
Cerebrospinal meningitis	1	Puerperal fever	3
Chicken pox	36	Scarlet fever	6
Diphtheria	4	Trachoma	41
Erysipelas	6	Tuberculosis	28
Influenza	28	Typhoid fever	20
Malta (undulant) fever	46	Whooping cough	6
Malaria [1]	1		

[1] Contracted abroad.

Population, civil, estimated: 228,575.

NIGERIA

Lagos—Plague—Plague-infected rats—February 26–March 3, 1928.—During the week ended March 3, 1928, two cases of plague with two deaths were reported at the port of Lagos, Nigeria. During the same period, of 8,246 rats taken in Lagos, 1,186 were examined, 51 per cent of these being found infected.

Inland localities—Smallpox.—During the same period, 103 cases of smallpox were reported, with 7 deaths, in 12 inland localities of the northern provinces of Nigeria, with high mortality reported at Mokwa. In the southern provinces 7 cases were reported from 3 localities.

Other transmissible diseases.—Ten cases of relapsing fever and 72 cases of trypanosomiasis were reported in the northern provinces of Nigeria.

PORTO RICO

Smallpox—Correction.—The unofficial report of smallpox in the vicinity of Fajardo, Porto Rico, which was published in the Public Health Reports dated March 23, 1928, page 723, was erroneous. The Commissioner of Health of Porto Rico states that smallpox has not been reported there for several years.

UNION OF SOUTH AFRICA

Orange Free State—Plague—Weeks ended March 10 and 17, 1928.—During the two weeks ended March 10 and 17, 1928, three fatal cases of plague were reported on Allemanskamp farm, Theunissen Area of the Winburg District, Orange Free State. A further suspect case, in a native, was reported found on the Theunissen-Theron Road. The case ended fatally.

Smallpox.—A fresh outbreak of smallpox was reported during the week ended March 10, 1928, in the State of Natal.

Typhus fever.—During the week ended March 10, 1928, fresh outbreaks of typhus fever were reported in the Orange Free State, occurring in Harrismith district, and two sporadic cases in Europeans, one of which was imported, in Durban, Natal.

During the week ended March 17, 1928, fresh outbreaks were reported in the Cape Province, occurring in four districts; in Natal, at Port Shepstone; and in the Transvaal, in Potchefstroom district, on a farm.

Month of February, 1928—Typhus fever.—During the month of February, 1928, 65 cases of typhus with 9 deaths were reported in the native population of the Union of South Africa. The distribution of the occurrence was as follows: Cape Province—cases 36, deaths 6; Natal—cases 6, deaths 1; Orange Free State—cases 23, deaths 2. There were reported two cases in Europeans occurring in the State of Natal.

VIRGIN ISLANDS

Communicable diseases—March, 1928.—During the month of March, 1928, communicable diseases were reported in the Virgin Islands of the United States as follows:

Island and disease	Cases	Remarks
St. Thomas and St. John:		
Chancroid	1	
Gonorrhea	5	
Malaria	3	2 from St. John. Malignant tertian.
Pellagra	1	
Syphilis	11	
Tuberculosis	1	Chronic pulmonary.
Whooping cough	5	
St. Croix:		
Chancroid	1	
Gonorrhea	10	
Syphilis	5	Secondary.
Tuberculosis	2	Chronic pulmonary.

YUGOSLAVIA

Communicable diseases—March, 1928.—During the month of March, 1928, communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	27	2	Poliomyelitis	1	
Cerebrospinal meningitis	11	3	Scarlet fever	1,597	276
Diphtheria	224	51	Rabies	1	1
Dysentery	16		Tetanus	18	8
Lethargic encephalitis	1		Typhoid fever	130	10
Leprosy		1	Typhus fever	21	1
Measles	3,932	78			

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C, indicates cases; D, deaths; P, present]

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928	
								21	28	4	11	18	25	3	10	17	24	31	7	14
China:																				
Amoy	C	28	72	16																
	D	7	3																	
Canton	C	31	36	14	12	1											1	1		
	D	16	25	14	11	1											1	1		
Foochow	C	P	P	P																
Hong Kong	C	P	1	P																
Shanghai (settlement and concession)—																				
Foreigners only	C	1	6	3																
Including natives	D	20	74	7																
Swatow	C	42	P	P	P															
	D		P	P	P															
Tientsin	C	P	15	2	P	1														
Dutch East Indies: Java—Batavia	C				28	3														
	D				18	3														
India	C	45,163	31,390	20,160	23,047	25,139	15,377	3,267	3,097	3,026	3,001	2,865	3,047	3,256						
	D	22,051	15,895	10,371	12,863	15,026	8,863	1,765	1,739	1,684	1,562	1,529	1,686	1,755						
Bassein	D									1			1	1			4	25	22	20
Bombay	C	42	3		2				1						1	1				
	D	30	2		2										1	1		1		
Calcutta	C	87	76	101	199	428	176	39	36	70	58		80	99	162	164	190			
	D	40	39	64	138	281	125	18	24	38	32	35	42	63	101	94	122	114	112	111
Madras	C	547	59	14	13	1	1	1			1		3	11			7	1		
	D	278	48	8	7	2	1		3		1	2	2	7	7		2	1	1	4
Madras Presidency	C	7,660	3,056	2,050	3,073	3,702	1,864	1,163	1,301	1,305	912	930	839	621						
	D	3,513	1,581	1,055	1,736	2,104	984	623	813	726	498	504	457	357						
Negapatam	C							4												
	D							4	1		1	2	2							1
Rangoon	C	1	2	6	2	8	4	4		1	1	10	12	3	4	4	7			
	D	1	2	5	5	6	3			1	1	8	4	2	4	2	3	6	5	2
Tuticorin	C			1		8													10	43
	D			1	37	14										1			8	26

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

CHOLERA—Continued

[C, indicates cases; D, deaths; P, present]

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928	
								21	28	4	11	18	25	3	10	17	24	31	7	14
India (French):																				
Chandernagor	C	1	1		6	10	14	1		5		2	2							
	D	1			6	10	9			1		2	2							
Karikal	C	18	1		1	1	8	9	7	8	8	2	2	2						
	D	12	1		1	1	4	5	4	5	5	2	1	2						
Pondicherry	C	12	15		1	25	11	2	3	2	5	17	10	6					1	2
	D	11	15		1	21	12	2	3	2	3	12	4	3					1	2
Indo-China: [1] Saigon	C		1	1			3	1	1		2	1	5	2	8	27	13	21	35	50
	D						1				1	1	1		6	19	8	12	20	37
Iraq [2]																				
Kwangchow-wan [1]																				
Philippine Islands: Manila	C	1																		
Siam	C	77	40	18	110	88	110	50	33	48	69	74	59	84	78	53				24
	D	53	24	11	76	64	80	34	21	42	42	50	38	73	53	39				17
Bangkok	C	2	3	5	4	3	21	11	28	28	34	23	17	12	8	8	12	16	24	
	D	1	1	3	2	2	11	7	16	26	17	12	11	7	6	5	5	12	11	
Straits Settlements: Singapore	C				7	5	23	2			1					1				
	D				5	4	12	1								1				
On vessel:																				
S.S. Adrastus: At Yokohama, Japan	C	1																		
	D	1																		
S. S. Hawaii Maru at Singapore from Saigon, French Indo-China	C																		P	
S. S. Tabaristan: At Basra, Iraq	C			1																

[1] See 10-day table below.

[2] From July 19 to Dec. 26, 1927, 1,479 cases of cholera were reported in Iraq, with 1,063 deaths, as follows: Amarah Liwa, 261 cases, 205 deaths; Baghdad Liwa, 80 cases, 60 deaths; Basra Liwa, 421 cases, 330 deaths; Diwaniah Liwa, 122 cases, 72 deaths; Diyalah Liwa, 1 case, 1 death; Dulaim Liwa, 100 cases, 69 deaths; Hillah Liwa, 105 cases, 71 deaths; Kerbalah Liwa, 79 cases, 60 deaths; Kut Liwa, 66 cases, 44 deaths; Muntafiq Liwa, 244 cases, 151 deaths.

Place		July–September, 1927	October, 1927	November, 1927			December, 1927			January, 1928			February, 1928			March, 1928		
				1–10	11–20	21–30	1–10	11–20	21–31	1–10	11–20	21–31	1–10	11–20	21–29	1–10	11–20	21–31
Indo-China (French):																		
Annam	C	3,179	226	13	75	38	16	2	----	79	95	93	23	36	14	18	18	23
Cambodia	C	251	180	56	1	28	21	12	39	30	9	15	38	22	51	33	22	92
Cochin-China	C	469	178	21	27	52	17	38	58	46	119	130	178	113	153	206	217	245
Laos	C	246	67	10	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Tonkin	C	1,297	1	----	----	1	----	----	2	1	----	----	----	----	----	----	----	----
Kwangchow-Wan	C	16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

PLAGUE

Place		Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended—													
							January, 1928		February, 1928				March, 1928					April, 1928		
							21	28	4	11	18	25	3	10	17	24	31	7	14	21
Algeria: Oran	C	1	----	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	D	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Arabia: Aden	C	----	----	----	----	19	13	22	54	89	63	45	77	158	189	148	151	163	108	----
	D	----	----	----	----	7	8	8	33	55	50	31	26	99	134	135	134	126	97	----
Argentina:																				
Bahia Blanca district	C	----	----	----	3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Buenos Aires	C	----	----	----	----	----	----	----	----	2	----	----	----	----	----	----	----	----	----	----
Cordoba Province	C	----	P	P	10	2	----	----	----	----	----	----	----	----	----	----	----	----	5	----
Firmat	C	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Quilino	C	----	----	----	3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Rosario	C	----	----	----	4	5	----	4	----	----	1	----	----	----	----	----	----	----	----	----
Santiago Province	C	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----
Ucacha	C	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Azores: St. Michaels Island	C	2	3	3	3	2	3	1	2	2	1	1	1	----	1	----	----	----	----	----
	D	1	1	----	1	1	1	1	1	1	----	----	1	----	1	----	----	----	----	----
Brazil:																				
Bahia	C	----	----	----	----	4	2	----	2	1	4	4	----	----	----	----	----	P	----	----
	D	----	----	----	----	4	----	1	2	1	2	3	----	----	----	----	----	----	----	----
Porto Alegre	C	----	----	----	----	----	----	----	----	----	----	----	2	----	----	----	----	----	----	----
Rio de Janeiro	C	----	----	----	----	----	1	----	1	2	1	1	----	1	2	----	----	----	----	----
	D	----	----	----	----	----	----	----	----	1	2	----	----	----	2	----	----	----	----	----

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928		
							21	28	4	11	18	25	3	10	17	24	31	7	14	21
British East Africa: [4]																				
Tanganyiki	C	------	P	P	P	P	------	------	2	------	------	------	3	------	------	------	------	------	------	------
	D	------	------	------	------	------	------	------	2	------	------	------	3	------	------	------	------	------	------	------
Uganda	C	226	99	99	67	79	16	------	------	7	13	------	------	------	------	------	------	------	------	------
	D	158	88	96	61	64	12	------	------	6	10	------	------	------	------	------	------	------	------	------
Canary Islands: Las Palmas	C	------	9	------	3	3	1	------	------	------	1	------	------	------	2	------	2	------	------	------
	D	------	------	------	1	1	1	------	------	------	1	------	------	------	------	------	------	------	------	------
Teneriffe	C	------	------	------	------	------	1	3	3	3	------	------	------	------	------	------	------	------	------	------
	D	------	------	------	------	------	1	------	3	------	------	------	------	------	------	------	------	------	------	------
Ceylon: Colombo	C	3	1	------	6	7	1	1	1	------	3	3	4	1	3	------	4	------	------	------
	D	3	------	------	6	6	1	1	------	------	1	3	1	1	3	------	2	------	------	------
China: Tungliao	D	------	200	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Dutch East Indies:																				
Balik-Papan	C	------	------	------	------	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------
	D	------	------	------	------	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Celebes—Makassar	C	------	------	6	2	6	2	1	1	1	------	1	------	------	------	------	------	------	------	------
	D	------	------	6	2	5	2	1	1	1	------	1	------	------	------	------	------	------	------	------
Java	D	432	779	829	1,017	751	197	214	------	------	------	------	------	------	------	------	------	------	------	------
Batavia and West Java	C	68	130	132	154	128	46	37	27	31	15	24	33	------	------	------	------	------	------	------
	D	68	129	132	152	128	44	37	27	31	15	24	33	------	------	------	------	------	------	------
Cheribon	C	------	------	------	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
	D	------	------	------	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
East Java and Madura	C	18	17	10	8	7	5	2	------	------	------	------	1	------	------	------	------	------	------	------
	D	18	17	10	8	7	5	2	------	------	------	------	1	------	------	------	------	------	------	------
Pasoeroean Residency	C	------	------	------	P	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Surabaya Residency	C	------	------	------	P	------	------	------	------	------	------	------	------	------	------	------	1	------	------	------
	D	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	1	------	------	------
Surakarta Residency	C	------	------	P	P	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Ecuador: Guayaquil [1]		------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Egypt:																				
Alexandria	C	1	------	------	12	5	------	------	1	------	1	------	------	------	------	------	------	------	------	------
	D	------	------	------	7	2	------	------	1	------	1	------	------	------	------	------	------	------	------	------
Cairo	C	------	------	------	------	2	------	------	------	------	------	------	------	------	------	------	------	------	------	------
	D	------	------	------	------	2	------	------	------	------	------	------	------	------	------	------	------	------	------	------

Maghagha District	C																			1
	D																			1
Minieh Province	C																			32
	D																			5
Suez	C	1				1	1		3		3	4	3	3		4	7	3		3
	D					1	1		1		3	3	2	1		2	3	4		2
Greece:																				
Athens and Piræus	C	3	1			3														
	D		1			1														
Mitylene	C	5	1	3	3															
Patras	C	2	1	1																
	D		1	1																
Hawaii Territory: Hawaii	D										1									
India	C	2,710	3,246	3,600	5,518	7,097	2,544	2,699	3,601	3,808	5,188	5,776	6,136							
	D	1,428	1,792	2,065	3,269	4,925	1,653	1,661	2,577	2,630	3,585	3,999	4,828							
Bassein	D	14	8	4	4	17	3	3		2	1	2	4	5	5	5	7	5	4	
Bombay	C	7	4			3	5	4	2	3	5	14	7	7	4					
	D	5	3			3	2	2	3	2	6	14	7	6	4	11	25	21	15	
Calcutta	C	18				2														
	D	10						1												
Madras Presidency	C	465	583	470	791	550	107	132	79	134	142	112	64	53				2		
	D	230	298	282	359	206	63	64	60	69	79	72	34	27						
Rangoon	C	6	11	11	15	17	8	9	7	11	15	16	6	11	5	11				
	D	6	11	11	15	16	7	7	6	10	12	15	6	10	4	9	5	8	5	
Indo-China: [1] Saigon	C	2		1																
Iraq:																				
Baghdad	C						1	1		2		1	1		2		1		1	4
	D						1			1		1	1		2	1	1		1	
Dulaim Liwa	C																			
Madagascar [1]									1											
Mauritius [1]																				
Nigeria: [1] Lagos	C			17	13	10	2	3	3	2	2	3	2	1	2				2	
	D			17	13	8	3	3	3	2	2	3	2	1	2				1	
Peru [1]																				
Senegal: [1] [2]																				
Baol	C	72	95	P	P															
	D	33	40																	
Cayor	C	463	176	48																
	D	233	88	28																
Dakar	C	20	1																	
	D	12																		
Louga	C	5	8																	
	D	4																		
Rufisque	C	16																		
	D	12																		
Thies and vicinity	C	9	1	1													8			
	D	7															4			

[1] See monthly table below.
[2] During January, 1928, 5 cases of plague were reported in interior of Senegal; 17 cases with 13 deaths during last 2 weeks in February; 8 cases and 4 deaths, Mar. 11 to 20, 1928.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928		
							21	28	4	11	18	25	3	10	17	24	31	7	14	21
Siam	C		13	1	3	16	5	3	6	6	13	4	11	14	7					11
	D		9		2	11	1	1	5	5	10	4	10	12	6					
Bangkok	C		2			1		1	1		1						1			
	D			1		1		1	1		1						1			
Straits Settlements: Singapore	C			1						1	1	1		1		1				
	D			1						1	1	1				1				
Syria [1]																				
Tunisia [2]																				
Turkey: Constantinople	C	1	1		2															
	D		1		1															
Union of South Africa:																				
Cape Province	C			2	2		1													
	D			2	1		1													
Orange Free State	C			1	8			2		3	4	1			3					
	D			1	6			1		3	1				3					
U. S. S. R.:																				
Chita district	C		1																	
	D		1																	
Northern Caucasus	C	14	1																	
	D	10																		
Venezuela: State of Miranda—Tacata and Cua	C													P						
On vessel:																				
At La Plata, from Rosario, Argentina	C					1														
S. S. Aghios Gerasimos, at Vigo, Spain	C			3																

[1] See monthly table below.
[2] 8 cases of plague with 6 deaths were reported in Bengardane region, Tunisia, Mar. 17 to 27, 1928.

Place		July-September, 1927	October-December, 1927	January, 1928	February, 1928	March, 1928	April, 1928
Algeria: Algiers	C		2				
Angola	C		3				
British East Africa: Kenya	C	95	62	26			
Ecuador: Guayaquil	C	15	18	4	6		
	D		5	4	3		
Indo-China (French)	C	14	10	7		5	
Kwangchow-wan						18	
Madagascar	C	314	692	427	342		
	D	286	605	388	317		
Ambositra Province	C	7	25	105	67		
	D	7	17	96	66		
Antsirabe Province	C	39	109	117	108		
	D	38	108	117	108		
Itasy Province	C	36	104	33	19		
	D	41	94	29	17		
Madagascar—Continued.							
Moramanga Province	C	12	95	19	25		
	D	12	83	19	24		
Tananarive Province	C	211	408	155	123		
	D	189	354	129	102		
Mauritius	C	1					
Nigeria	C	32	63	16			
	D	29	61	16			
Peru	C	34	34		41		
	D	19	11		14		
Callao	D	3	3				
Lima	C		7				
	D		3				
Senegal	C						52
	D						32
Syria: Beirut	C		2				

SMALLPOX

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928		
								21	28	4	11	18	25	3	10	17	24	31	7	14	21
Algeria [1]	C	459	382	683	661	170	129	17	18	20	16	30									
Algiers	C					3	9	3	1	7	4	4		5	1		2	2	1		
Oran	C	9	16	11	20	30	29	2	2	4	3	1		2	2		2	10			
Angola [1]																					
Arabia: Aden	C				1	3	1					1									
Brazil: [1]																					
Para	C	1																			
Rio de Janeiro	C	6	10		1																
	D	4	9		1											1					

[1] See monthly table below.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928		
								21	28	4	11	18	25	3	10	17	24	31	7	14	21
British East Africa: [1]																					
Kenya-Mombasa	C																1				
Tanganyiki	D	21	8	P	P	P	8	4	0	1											
British South Africa:																					
Northern Rhodesia	C	55	39	164	185	252	236	3		230		79	117	38	63						
	D	1	2	11	64	62	31			23		5	32	2	3						
Southern Rhodesia	C				3	2	1			P	3	2	4	P	3	4					
	D												1								
Canada:																					
Alberta	C	17	17	23	10	19	11	1	19	1	6		3		7	7	20	7	13		
Calgary	C	1														1					
Edmonton	C			1	1	8	5	1			2	1		11	1	1	11	1	7	2	
British Columbia: Vancouver	C		2			4	8	11	3	1	11	2	1	3	4	2	5	6	4	11	
Manitoba	C	13	9	7	19	7	11		1												
Winnipeg	C	5	4	2	2	2	2	1	1												
New Brunswick	C						1						1								
Nova Scotia	C		2	1																	
Halifax	C		1	1																	
Ontario	C	60	22	96	264	347	212	52	77	63	51	40	51	36	20	19	35	20	9		
Hamilton	C					2										2					
Kingston	C				1		1				1									2	
Ottawa	C	27	40	67	134	63	60	20	16	23	9	11	3	1	7	6	8	10	2		3
Toronto	C		2	10	34	39	28	8	5	1	6	4	4	2	4	2	3	3	1	2	4
Windsor	C			9																	
Quebec	C	1		8	25	16	44	7		11	8	11	13		18	22	40	35	15	20	25
Montreal	C				1		8	3	4	1		5	1	3		6	3				6
Quebec	C					4	5		5				2	5	4	3	4	4	5	4	
Riviere du Loup	C				3																
Sherbrooke	C																	3			
Saskatchewan	C	14	68	31	34	58	52	39	15	9	34	7	8		7	14	7		12		
Moose Jaw	C	10	16	3		1	4	4	2	3	2		2	6	5	2	5			3	
Regina	C	8		5	1	1												1	2	3	2
Saskatoon	C					2	4	13	1		1		2								
Ceylon: Colombo	C	1			1	2		1		1	2	2	1	3					1		
	D	1				1		1									1				

China:																						
Amoy	C														1	1	2					
Antung	C						1															
Canton	C		1												2	3	2		2	1		
	D		1																			
Chefoo	C		1	P		P										P						
	D		1											1								
Foochow	C	P	P	P	P	P	P		P		P		P		P							
Hong Kong	C	1	2				1	1		1		1	3		3	5	7	10	10	4		
	D	1	2				1		1	1			1	1	2		2	5	12	7		
Manchuria—																						
Changchun	C					1			4											2		
Dairen	C			1	2	1	5	1		5	9	3	4	6				4	6	7		
	D			1					1	2	5	4	2	1								
Fushun	C		1		1																	
Harbin	C					2	1		2	1	2	2	1	3	1	2	3					
Mukden	C			2	1				1		3	18		3				1				
Pensihu	C			1																		
Shanghai—																						
Foreigners only	C							1	2		2	1	1	1	3	1	1	3				
Including natives	D							3	2	3	3	5	4	4	6	2	1	3	3	3		
Tientsin	C		4	13	8	9	8	20	10	10	8	5	2	2	11	4						
Chosen.[1]																						
Curacao (alastrim)	C							2				3										
Dominican Republic: Santo Domingo	C															2						
Dutch East Indies:																						
Borneo—																						
Pontianak	C												1									
Samarinda district	C				P																	
South and East Borneo Residency	C	P																				
Java—																						
Batavia and West Java	C	4		4	25					1	3		1		1	4						
	D				15																	
East Java and Madura	C	4	22	8	9	9	5	2						8								
	D			1																		
Sumatra--Medan	C					3	9	3	5	5	10	7	3	1	3	6						
	D					2	3	4	4		3				2	4						
Ecuador.[1]																						
Egypt	C		3			4	4				1		1	1					52	11		
	D		1	1		1													33	6		
Cairo	C					2																
France.[1]																						
Gold Coast.[1]																						
Great Britain:																						
England and Wales	C	568	508	473	902	1,041	1,175	405	370	386	369	369	392	365	347	359	342	322	318			
Birmingham	C	1		1				14	17	11	2	1		2		1				1		
Bradford	C				11	19	32	6	9	7	2	7	1		4	9		5	5			
Bristol	C			6	4	8			2		1			1	3		2	8	2			
Cardiff	C				1		1											5				
Leeds	C	5	3	7	5	16	11	1			2	1	2	4	2	3	5	3	3	2		
Liverpool	C						1								1							

[1] See 10-day and monthly tables below.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928		
								21	28	4	11	18	25	3	10	17	24	31	7	14	21
Great Britain—Continued.																					
England and Wales—Continued.																					
London	C			3	6	25	5	2		1	5	10	1	2	1	10	5	1	1		
Manchester	C							11	6	4	4	1	4	1	2	4	3	3	4	2	
Newcastle on Tyne	C	1	2	6	9	55	22	14	3	4	6	4	1	4	3	3	4		2		
Nottingham	C						13	4	8	6	9	6	1	3	1	5	1	6	1		
Sheffield	C	2	1	10	6	9	14	4		4		1	2	2	1				1		
Stoke on Trent	C	1					4			1		2	4	3	6	11			1		
Greece:[1] Saloniki	D	2																			
India	C	5,911	4,398	3,153	4,052	6,731	10,676	4,129	3,631	5,159	4,858	4,567	4,220	5,251							
	D	1,668	1,120	715	927	1,650	2,429	964	803	988	954	1,073	938	949							
Bassein	C	1									1										
	D	1																			
Bombay	C	33	12	10	4	9	14	10	23	10	18	29	23	46	51	49	58	62	49	56	
	D	19	8	2	3	2		2	8	7	7	15	13	23	22	24	33	36	27	32	
Calcutta	C	27	22	5	5	25	36	14	11	23	10	9	18	14	30	20	29	45	40	49	
	D	25		6	2	11	27	10	7	10	7	5	11	10	24	15	21	33	35	32	
Karachi	C														1	1					
	D														1						
Madras	C	6	7	8	7	11	21	9	16	20	29	15	33	21	31	30	27	45	81	49	
	D		2		2	3	6	3	2	2	1	3	3	3	10	5	3	6	15	16	
Negapatam	C	3	1				5		4	2	2	1		1	1					1	
	D	2	1				3		2	1										1	
Rangoon	C	14	9	17	6	14	136	41	34	103	97	68	82	132	95	96	82	92	50	62	
	D	3	2	3	1	4	31	13	10	18	23	22	24	26	32	28	17	34	23	24	
Vizagapatam	C		3				3	2	1	5	2		1		1			3			
	D		2					6	1		1										
India (French):																					
Karikal	C	3	1	2	P																
	D	3	1	2																	
Pondicherry	C	39	37	38	42	41	65	15	17	15				6	3		6	5	7	12	
	D	31	37	38	42	41	50	15	17	15				6	3		6	5	7	12	
Indo-China:[1] Saigon	C	1	1			1	3						2		1						

Iraq:																							
Baghdad	C		1	7	5	25	23	7	6	3	3	2		3	2	3							
	D			4	4	14	12	3	5	2	1	1		1	2	3							
Basra	C	1	4	2	3	4	2	1				1		2	4	4	1						
	D	1	4	2	1	3	1									1	1						
Italy:																							
Leghorn	C													1		1							
Palermo	C																	3	2				
Rome and vicinity	C		1				2																
Jamaica (outside Kingston) (alastrim)	C	6	9	9	7	3	2		4	1		1	3		6	3	2						
Kingston	C		3	2																			
Japan:																							
Nagasaki	C	2																					
	D	1																					
Tokyo	C							2	1		1		1		3	1	3						
	D								1					1	1								
Tokyo Prefecture	C																17						
Latvia [1]																							
Mauretania	C											P	P										
Mexico: [1]																							
Acapulco	C		2	1																			
	D		2	1																			
Chihuahua	D						1																
Jalisco (State)	C																						
Guadalajara	D					2								1					P				
Manzanillo	D						1									1			2	2	1		
Mexico City and surrounding territory	C					4				1	1	2											
San Luis Potosi	D	1																					
Tampico	C														1								
Torreon	D	1		2																			
Morocco [1]																							
Nigeria: [1] Southern Province	C													7									
Palestine: Jerusalem	C					1			1														
	D								1														
Persia [1]																							
Poland	C	2				1	6	1	1	1		1				1							
	D	1																					
Porto Rico [2]																							
Portugal:																							
Lisbon [1]	C		3	8	4	10	12	5	2	2	3	3	9	4	4		2						
	D					1																	
Oporto	C		1																				
Senegal: Dakar	C																						
	D												8		26	17							
Siam	C	51	27	6	1	9	23	13	7	5	10	1	7	1	3	12							
	D	10	15			1	2	1	1	2		1	1		1			3					
Bangkok	C		3		1	1	3											2					
	D		1				1																

[1] See 10-day and monthly tables below.

[2] The report of the presence of smallpox in the vicinity of Fajardo, Porto Rico, which has appeared in the Public Health Reports was erroneous. No smallpox has been reported in Porto Rico for several years.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C, indicates cases; D, death; P, present]

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928	
								21	28	4	11	18	25	3	10	17	24	31	7	14
Spain: [1]																				
Malaga	D				1	1														
Seville	C						1													
Valencia	C			1			2								1		1	1		
Straits Settlements: Singapore	C				1					1		1				1				
Switzerland	C						2													
Syria [1]																				
Tunisia: Tunis	C						4		3			2	4	2	6	1				
Union of South Africa:																				
Cape Province	C	P		P				P			P									
Natal	C										P	P			P					
Orange Free State	C	P			P	P	P	P			P									
Transvaal	C			P	7							2	3		1					
Upper Volta	C																			
Union of Soviet Socialist Republics [1]																				
Venezuela: Maracaibo	D		2	1							1				1					
On vessel: S. S. Arendskerk at Singapore from Amoy, China	C																	P		

[1] See 10-day and monthly tables below.

Place		July, 1927	August, 1927	September, 1927	October, 1927	November, 1927	December, 1927			January, 1928			February, 1928			March, 1928			Apr. 1-10, 1928
							1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-29	1-10	11-20	21-31	
Algeria	C	376	450	382	682	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oran	C	14	10	16	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indo-China (French)	C	19	3	21	25	38	10	4	20	.....	40	18	50	31	90	57	71	69	.....
Syria:																			
Aleppo	C	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Beirut	C	.....	.....	.....	.....	.....	1	.....	1	.....	.....	15	11	26	.....	12	7	4	3
Damascus	C	.....	3	5	22	13	4	6	2	11	2	.....	.....	.....	.....	.....	1	.....	.....

Place		July-September, 1927	October, 1927	November, 1927	December, 1927	January, 1928	February, 1928	March, 1928
Angola	C	51	73	71	7	10	.....	.....
	D	.....	2	.....	.....	.....	.....	.....
Congo	C	5	77	.....	.....	.....	.....	.....
Cuanza-Norte	C	1	.....	.....	.....	.....	.....	.....
Cuanza-Sul	C	.....	2	.....	7	10	.....	.....
Loanda	C	1	.....	.....	.....	.....	.....	.....
Zaire	C	3	4	1	.....	.....	.....	.....
Brazil: Porto Alegre	C	11	4	1	.....	.....	1	.....
British East Africa: Zanzibar	C	.....	2	.....	.....	.....	.....	.....
	D	.....	1	.....	.....	.....	.....	.....
Chosen	C	21	2	2	.....	4	21	.....
	D	6	.....	1	.....	2	8	.....
Ecuador: Guayaquil	C	4	1	1	4	2	9	.....
France	C	37	7	4	14	11	10	.....
Gold Coast	C	7	4	.....	.....	.....	.....	.....
Greece	C	10	4	.....	5	6	11	19
	D	.....	.....	.....	.....	.....	2	2

Place		July-September, 1927	October, 1927	November, 1927	December, 1927	January, 1928	February, 1928	March, 1928
Latvia	C	.....	2	.....	.....	.....	1	.....
Mexico	D	221	132	157	.....	.....	.....	.....
Morocco	C	180	81	140	401	55	47	30
Nigeria	C	820	223	93	.....	275	.....	.....
	D	173	51	30	.....	39	.....	.....
Persia	D	.....	.....	2	.....	7	.....	.....
Portugal	C	.....	.....	.....	.....	143	.....	.....
	D	.....	.....	.....	.....	22	.....	.....
Spain: Madrid	D	.....	.....	1	.....	.....	.....	.....
U. S. S. R.:								
Railways, etc	C	26	7	11	15	18	.....	.....
Other territories in Europe	C	366	220	471	565	.....	.....	.....
Transcaucasus, Siberia, and Central Asia	C	80	40	21	20	.....	.....	.....
Ukraine	C	27	11	20	17	6	.....	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER

[C, indicates cases; D, death; P, present]

Place		July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Week ended— January, 1928		February, 1928				March, 1928					April, 1928	
								21	28	4	11	18	25	3	10	17	24	31	7	14
Algeria:[1]																				
Algiers	C								1					1	2	1	1	2		
	D													1						
Oran	C						4		2			2	1	6	1	1		2		
Argentina[1]																				
Austria: Vienna	C									1										
Bulgaria:[1] Sofia	C			17	6	1	6	1								3		3	14	
	D				1															
Chile:																				
Antofagasta	D			1																
Valparaiso	C		1		1	2	1							1						
	D	2	1		2															
China:[1]																				
Manchuria—																				
Dairen	C																			7
Harbin	C	2			1															
Tientsin	C		2																	
Chosen[1]																				
Czechoslovakia[1]																				
Egypt	C	2		12	4	14	8	2	6		1		13	3	1		1	1		2
	D	3		5		8	4		2				5	3			1			
Cairo	C					3														
	D					3														
Port Said	C			1		1														
Greece[1]																				
Japan[1]																				
Ireland (Irish Free State):																				
Cork County	C					3	1													
Donegal County, Letterkenny	C			4																
Latvia[1]																				
Lithuania[1]																				

Place		1927				November, 1927			December, 1927			January, 1928			February, 1928		
		July	August	September	October	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-29
Mexico:																	
Guadalajara	D																
Mexico City, including municipalities in Federal District	C	17	19	18	28	17	15	2	1		2	1		4	3	6	6			
	D				2	1	5							3	1		3			
Monterey	D																1			
Morocco [1]	C																			
Palestine	C	11	1	5	3	9	8		2	2	1	1	2	6	1	5				
Peru [1]																				
Poland	C	50	35	19	64	93	195	101	92	87	66	57	62	57	89	90	90			
	D	6	2	4	11	10	16	4	3	5	7	10	3	7	6	5	6			
Portugal: [1] Oporto	C	1			1						1									
Rumania	C	36	16	17	22	35	68			15	24		14	26	28	29				
	D	1		2			3			2	7			4	1	2				
Syria: [1] Aleppo	C		2				2													
Tunisia	C	14		3	1	1	6	4				1				13		5		
Union of South Africa:																				
Cape Province	C	P	P	P	P	P	1	P	P	1	P	P	P							
Natal	C	P	P	P	P	2	3		P		1	P	P							
Orange Free State	C			P		P				P	P	P	P							
Transvaal	C	1		5	P	P														
U. S. S. R. [1]																				
Yugoslavia [1]																				
On vessel: S. S. Gaika at Durban, Natal—from Mauritius	C													1						

Place		1927				November, 1927			December, 1927			January, 1928			February, 1928		
		July	August	September	October	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-29
Algeria	C	67	33	10	12												
	D	13			1												
Algiers	C	2	2	6	2												
Bulgaria	C	12	24	7	2						2	7	6		8	12	6
	D		1	2	1						1		1		1	2	2
Morocco	C	148	76	7	11	5	14	7	5	6	75						

[1] See 10-day and monthly table below.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER—Continued

[C indicates cases; D, deaths; P, present]

Place		July–September, 1927	October, 1927	November, 1927	December, 1927	January, 1928	February, 1928
Argentina: Rosario	C			1			
	D				1	1	
China: Shanghai	D			1			
Chosen	C	90	16	26	38	183	400
	D	8	1	2	3	19	44
Chemulpo	C	3				1	
Gensan	C	2				1	
	D					1	
Seoul	C	5	2				
	D	1	1				
Czechoslovakia	C	12	1		6		
Greece: Athens	C	3			1	2	2
Japan	C	1		1			
Latvia	C	6					1
Lithuania	C	69	9	18	27	86	137
	D	14	1	1	1	10	12
Mexico	D	64	36	29			
Peru:							
Arequipa	D	3	2		1	2	
Lima	D	8					
U. S. S. R.:							
Railways, etc	C	77	23	33	46	41	
Transcaucasus, Siberia, and Central Asia	C	208	61	49	80	7	
Ukraine	C	295	151	198	282	533	
Other territories in Europe	C	1,839	521		1,403		
Yugoslavia	C	20	1	1		7	
	D	5				3	

YELLOW FEVER

Place		July 3–30, 1927	July 31–Aug. 27, 1927	Aug. 28–Sept. 24, 1927	Sept. 25–Oct. 22, 1927	Oct. 23–Nov. 19, 1927	Week ended— Nov. 26, 1927	December, 1927 3	10	17	24	31	January, 1928 7	14	21	28	February, 1928 4	11	18	25
Belgian Congo:																				
Boma	C											3								
	D											2								
Matadi	C											6	12	11	1	5	8			1
	D											2	6	8	2	5	6			
Dahomey:																				
Grand Popo	C						1													
	D						1													

Porto Novo	C	1																			
	D	1																			
Gold Coast:[1]																					
Ashanti-Obuasi	C		1																		
	D		1																		
Ivory Coast	C	1										1									
	D	1										1									
Liberia: Monrovia	C			1																	
Nigeria	C			2																	
	D			2																	
Senegal	C	3	10	21	31	38															
	D	3	9	21	31	28															
Dakar	C	1			12	14	2	1	4			1	1								
	D				7	10	2	1	4			1	1								
Togoland	C		1																		
	D		1																		

Place		July	August	September	October
Gold Coast	C	15	2	6	1
	D	4	2	4	1

[1] See monthly table below.